



**INFORMATION BOOKLET ON
GRANTS AND CONTRACTS
AND
INSTRUCTIONS FOR CONTRACT
LIAISON OFFICERS
AND
GRANT LIAISON OFFICERS**

REVISION No. 5

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**Ministry
of the
Environment**

The Honourable
Keith C. Norton, Q.C.,
Minister

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Deputy Minister

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INFORMATION BOOKLET ON
GRANTS AND CONTRACTS
and
INSTRUCTIONS FOR CONTRACT LIAISON OFFICERS
and
GRANT LIAISON OFFICERS

This Booklet is designed to assist Applicants for a Contract or Grant from a Branch, Region, Board or Committee of the Ministry of the Environment or for Applicants requesting Provincial Lottery Funds for the Support of Environmental Research Projects and for Liaison Officers involved in the Administration of Ministry of the Environment Contracts and Grants.

Revision No. 5 .

PROVINCE OF ONTARIO
MINISTRY OF THE ENVIRONMENT
COMPILED BY THE
RESEARCH ADVISORY COMMITTEE

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GRANTS AND CONTRACTS AND INSTRUCTIONS
FOR CONTRACT AND GRANT LIAISON OFFICERS

MINISTRY OF THE ENVIRONMENT
INFORMATION BOOKLET
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PART 1
INFORMATION RELATING TO BOTH
GRANTS AND CONTRACTS

PART 1

INFORMATION RELATING TO BOTH GRANTS AND CONTRACTS

1. INTRODUCTION

Research Proposals requesting support from Branches and Regions of the Ministry of the Environment are received from the following sources:-

1. Universities, Colleges, and Research Foundations
2. Municipalities
3. Contracting and Consulting Companies
4. Clubs and Citizens Groups
5. Individuals

Proposals coming from these sources are known as "unsolicited" proposals. Proposals originating from M.O.E. Branches and Regions are classified as "solicited" proposals and if they are approved for funding they are later contracted on the basis of selection by competitive bidding or are funded by a grant.

An unsolicited proposal if approved may also be funded by either a grant or a contract and if the research work is done at a University an unsolicited proposal is usually funded by a grant.

2. GUIDELINES AND PROCEDURES FOR PROVINCIAL LOTTERY TRUST FUNDS

When the M.O.E. Research Advisory Committee receives a Proposal for funding with Provincial Lottery Trust Funds, its viability is considered in relation to the "Guidelines and Procedures for 'The Provincial Lottery Funding'" which appears in Appendix No. 1 of this booklet.

3. PROJECT CONTROL AND REPORTING

- a. Liaison Officers will be appointed from M.O.E. staff to maintain liaison and monitor each Project funded by a grant or contract.

- b. Attainment of Objectives, Assessment of Performance and Implementation of Results will be achieved by the methods outlined in the Guidelines and Procedures shown in Appendix No. 1.
- c. If a Proposal is approved by a Branch, Region or the Research Advisory Committee, it is assigned a Project or Code Number and receives financial support subject to the various M.O.E. Administrative and Financial controls.
- d. Contractors or grant recipients will provide progress reports and a final report with an accompanying synopsis report the timing of which will be prescribed when contracting the project or awarding the grant.

4. RESEARCH ADVISORY COMMITTEE

The Research Advisory Committee (R.A.C.) was created in 1975 to provide a broadly based co-ordinating and planning group for the Ministry of the Environment's research program. The committee is made up of representatives of the various Ministry Branches who have research responsibilities plus a member from the Program Planning and Evaluation Branch, a representative from the Regional Offices and a medical advisor from the Ministry of Labour. The Research Advisory Committee is responsible for the administration of the Provincial Lottery Funds which are allocated to the Ministry of the Environment.

5. SCOPE OF FUNDING FROM MINISTRY OF THE ENVIRONMENT

Environmental research is funded by the various Regions and Branches of the Ministry of the Environment in support of its policies and responsibilities. Basic research is supported when it will provide fundamental knowledge necessary for an understanding of a problem or

to establish a "centre of excellence" at a University or external location. Developmental research related to product technology is also supported. M.O.E. supports by Provincial Lottery Funds environmental health research which seeks to provide solutions to recognized environmental problems or provide understanding of anticipated future problems.

6. DEFINITION OF GRANTS AND CONTRACTS

- a. Funding by grant is usually confined to supporting unsolicited projects at Ontario Universities. As shown in Appendix No. 3, the conditions of award of grant are not restrictive and funds are issued partially or totally before expenses are incurred. If funds are issued by instalments, a statement of expenses is required before the next instalment is issued.
- b. Contracts are usually used in funding solicited projects. They are issued by a Purchase Order with special conditions or a contract with restrictive terms, clauses and conditions (See Appendix No. 8). Funds are paid upon receipt of approved invoices and a statement of services performed. There is a holdback of funds until an acceptable final report has been received and reviewed.

7. DEFINITION OF SOLICITED PROPOSALS

A Solicited Proposal is one that originates from an observed need or problem. The Ministry of the Environment will identify the objectives and scope of the research work. The terms of reference of this type of proposal are written by technical staff of M.O.E. and the budget and time frame is negotiated. Form 01 shown in Appendix No. 2 should be used to initiate a Solicited Lottery Proposal.

After the approval of the proposal in principle by the Branch, Region or R.A.C., it is sent out for competitive bidding to a minimum of three contractors who are considered to be technically competent to conduct the project. After competitive bidding, on the solicited proposal, the contractor is selected and engaged following usual Province of Ontario contracting procedures. (See Appendix No. 6 for details of contractor selection procedure). It is preferable practice to assign a Liaison Officer to the proposal before choice of the contractor in order to allow him or her to play a role in selection of the successful bidder.

8. DEFINITION OF UNSOLICITED PROPOSALS

An Unsolicited Proposal is one that originates from a non-M.O.E. source and is submitted to a Branch, Region or the Research Advisory Committee, Ministry of the Environment for approval. This proposal is often compiled in considerable detail by the applicant and if it is a proposal requiring Lottery funds it must be summarized, if approved, on Forms 02 and 03 shown in Appendix No. 3 and No. 5. If an unsolicited Lottery proposal is approved by the R.A.C. for contracting, it is necessary for the Chairman to sign Form 04 shown as Appendix No. 4. A copy of Form 04 should accompany the requisition and will indicate to Financial and Administrative Services Branch that the requisition being placed by them is for an unsolicited proposal and as a result is exempt from the requirement for competitive bidding. For both solicited and unsolicited Lottery proposals, it is necessary to compile Form 03 shown as Appendix No. 5 as guidance to the Minister, when the proposal is being considered for approval. Form 03 should be compiled by the Liaison Officer and/or the Contractor.

If this is not done the R.A.C. Secretary will compile Form 03 based on information contained in Forms 01 and 02 or elsewhere. It is preferable for an unsolicited proposal to be submitted in a brief outline form for initial review. The outline should include a statement on materials, methods, budget and time and if it receives a favourable initial review, the applicant will be asked to submit a complete proposal.

9. REQUIREMENTS FOR RESEARCH PROPOSALS

Research proposals must meet certain criteria established by the Ministry of the Environment Branches, Regions or the Research Advisory Committee before funds are provided. All proposals are evaluated on the basis of research and policy requirements and research priorities. Proposals must have significance for Ontario, be short-term, (e.g. thirty-six (36) months maximum duration) and be of a problem oriented nature. Funds are not normally provided for projects outside Ontario.

10. RESEARCH RESPONSIBILITIES OF PROPOSALS

In addition to satisfying technical and policy criteria, research proposals are required to satisfy one or more of the priorities recognized by Ontario Ministry of the Environment. These priorities are determined from time to time on the basis of public inputs and M.O.E. staff experience in the area of protection and enhancement of the environment.

They are as follows not listed in order of priority:-

Drinking Water
Reclamation or Environmental Clean-up
Soil, Water and Air Pollution
Domestic and Municipal Sewage and Waste Disposal
Recycling of Solid and Liquid Wastes
Environmental Effects of Resource Development
Industrial Waste Disposal Processes
Hazardous and Toxic Materials
Urban Drainage
Environmental Effects of Land Use
Preventative Aspects of Environmental Management.

11. CONDITIONS OF FUNDING AND IMPLEMENTATION

The general conditions which apply to projects funded by the Ministry of the Environment are as follows:-

- a. A research project shall not be altered in any way (e.g., in terms of objectives, subject matter, shift in emphasis, etc.) from the proposal without prior written consent. It is expected that a recipient will meet all stated objectives of the proposal.
- b. Contractors or Grantees are expected to administer research funds provided by the Ministry. Recipients are normally expected to include their own administrative charges in the cost estimates for the projects funded by contract but in the case of grants to Universities overhead costs are not paid.
- c. In the case of a grant, a certified final statement of expenditures on the research project must accompany the final report from the institution receiving the grant. A portion of the funds, usually 10%, for contract will be withheld until a satisfactory final report is received.
- d. Adequate progress reports must include a summary of activities, changes in plan or personnel, expenses, and results. Progress reports will be submitted on a regular basis to be agreed upon when assigning the grant or contract.
- e. If a project cannot be completed due to unforeseen and uncontrollable circumstances, e.g., unusual weather conditions, all unused monies shall be returned to the Ministry of the Environment. In the case of a contract, the contract may be terminated and the 10% holdback on funds spent to date may be released to the contractor at the discretion of the Liaison Officer for the project or the Research Advisory Committee.

12. FINAL REPORT

A final report on each completed project must be submitted within a reasonable time after the project is completed. The Liaison Officer will evaluate and accept the final report within the terms agreed upon. Reports should be distributed within the Ministry of the Environment to interested parties. The procedure for handling and publishing final reports is set out in the instructions for Government Publications. (See Section 65, Ontario Government Manual of Administration Volume 1, part 5). A copy of each M.O.E. Research Report should be sent to the Bibliographic Services Centre, Ministry of Government Services, 5th Floor, 880 Bay Street, Toronto, for inclusion in the microfiche program of Ontario Government Publications after it has been approved for release to the public by the Minister and Deputy Minister.

13. DISCLAIMER AND ACKNOWLEDGEMENT FOR PUBLICATION WITH
A FINAL REPORT ON A PROJECT SUPPORTED BY MINISTRY
OF THE ENVIRONMENT PROVINCIAL LOTTERY FUNDS

The suggested Disclaimer may be as follows:-

_____ This report has been reviewed by the Research Advisory Committee and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Ontario Ministry of the Environment, nor does mention of trade names or commercial products constitute endorsement or recommendation for use. _____

The suggested acknowledgement may be as follows:-

This Report is issued to describe an environmental oriented research project conducted at and supported by a grant (contract) (of Provincial Lottery Trust Funds) assigned by the Ministry of the Environment, Province of Ontario.

All initial enquiries regarding this project should be made to:

..... Section,

Branch, Ontario Ministry of the Environment.

14. PERFORMANCE EVALUATION SHEET FOR A CONTRACTOR OR GRANTEE

The Province of Ontario Manual of Administration Section 50 - 4 for Technical Consulting Services states in Paragraph 16 for Performance Evaluation, "Upon completion of each assignment, Ministries shall prepare a confidential, written evaluation of the supplier's performance. The detail of the performance evaluation shall be consistent with the cost and complexity of the assignment. The performance evaluation shall be retained for a minimum of three years, and will be discussed with the supplier or other Ministries on request".

Appendix No. 10 will assist the Liaison Officer in preparing the Performance Evaluation of the Contractor or Grantee.

15. RELATIONSHIP BETWEEN A GRANT, A PURCHASE ORDER, CONDITIONS AND A CONTRACT

- a. When a Project is funded by a Grant there is no Purchase Order or Contract issued. The grant cheque is accompanied by a letter from the Region, Branch or Research Advisory Committee Chairman stating that the grant is given for undertaking the proposal submitted by the Grantee.

- b. Projects that are contracted may be funded on the financial authority of only a Purchase Order, by a Purchase Order augmented by Conditions or by a Contract. The usual way of funding Solicited Proposals is by a Purchase Order and Conditions. (See Appendix No. 8 for typical Conditions).
- c. The Liaison Officer must consult with Legal Services Branch for guidance and co-operation in compiling Conditions or preparing a Contract. The final copy of this document that accompanies the Purchase Order should have the approval of Legal Services Branch.
- d. After a Purchase Order is issued with or without Conditions, a binding agreement is formed between the Crown and the proponent when he starts to perform what the purchase order requires. If the purchase order has special conditions, the person acting in response to it is bound automatically by the conditions of the purchase order. It is convenient, however, if the conditions are specifically drawn to the proponent's attention and he is asked to sign to indicate his acceptance of them. With respect to a contract, Section 5 of The Executive Council Act specifies that it is binding on the Crown only if it is personally signed by the Minister or approved by Order-in-Council.

16. UNSOLICITED PROPOSALS NOT FOR LOTTERY FUNDING

If a Branch or Region wish to fund an unsolicited proposal using non Provincial Lottery Funds, it must be sent to the Research Advisory Committee for approval. The policy in this regard is outlined in the Ontario Manual of Administration - Volume 1, page 50-9-5 and instructions in 1975 from M.O.E. Deputy Minister. After the unsolicited proposal has been approved by the R.A.C., the Branch or Region is informed by Form 04. (See Appendix No. 4).

PART 11
INFORMATION RELATING
TO GRANTS

PART 11

INFORMATION RELATING TO GRANTS

1. INTRODUCTION

The use by the Ministry of the Environment of funds for environmental research is intended to encourage investigations directed towards providing the information and techniques necessary for the attainment and maintenance of an eminent standard of environmental quality in Ontario and to maintain in the Province a high level of competence in pollution abatement science and technology.

The Research Grants are intended primarily to cover operating expenses such as: the employment of assistants, supplies, computing services, field trips, and equipment. It is assumed that the basic facilities required to carry out the proposed work are already available to the applicant. Capital equipment may be purchased with Grant funds although this type of expense should be limited to 50% of the total budget.

2. CONDITIONS FOR ACADEMIC FACULTY AND STAFF

All research proposals, before submission to the Ministry of the Environment, must be handled through the office of the University or College Research Grants Officer, or appropriate research grants administrator.

In the event that any principal researchers specified in the accepted proposal take a sabbatical leave, leave of absence, or will otherwise not be present or active in the project, agreement in writing is required from the Branch or Regional Director or Chairman of the Research Advisory Committee prior to continuation of the Project.

3. APPLICATION FORMAT

Applications for a grant should be supported by detailed information showing:

- a. A project title.
- b. A lucid statement of the objective(s).
- c. A general description of the proposed study, its significance and relevance to health-related environmental research, science or technology or protection of the environment.
- d. A concise statement of the work programme, when it starts and when it is ending.
- e. A succinct and clear statement of what is planned to be achieved during each yearly period of the proposal which may consist of a fiscal year, or any 12 month period.
- f. A detailed budgetary statement with cash flows shown for each year and based on the government fiscal year, April 1 to March 31.
- g. The names of principal and junior investigator(s).
A brief resume of the principal investigator(s) with a list of recent publications should be included.
- h. Special capital equipment available to the researcher or to be acquired.
- i. A signed acceptance of the conditions of funding, including signatures of the principal investigator, the head of the office of research administration, etc. (See Appendix No. 3).
- j. An application for a Provincial Lottery Grant should be made on Form 02 shown in Appendix No. 3.

4. SALARIES

The principal investigator(s) and other senior research staff associated with the project who normally receive a salary on a continuing basis from a university or college may not receive salary payments, stipends, supplements or fees for services from Grants.

Salary payments to post doctoral fellows, graduate students, technicians or other assistants should not exceed existing NSERC rates.

5. ALTERNATE OR ANCILLARY FUNDING

Applicants must indicate whether funds for the project or a similar project have been or are going to be solicited elsewhere. The following information should be included:-

The names of the other agencies.

The amount sought from each agency.

The amount received to date from each agency.

6. ALTERNATE OR JOINT FUNDING

Joint funding by the Ministry of the Environment with other agencies is possible. It is in the interest of an applicant to determine if other agencies will co-operate in joint funding and notify the Ministry if such arrangements appear possible.

7. DURATION OF FUNDING

A Project usually receives approval for the duration of the project which in the case of a Lottery Project cannot exceed a total of thirty-six (36) months.

The duration of a grant is usually for a period of one fiscal year ending March 31. The awarding of a grant in any one year in no way implies that funding will be certain in subsequent years and the status of each project will be reviewed yearly by the sponsoring Branch, Region or the Research Advisory Committee.

8. EVALUATION OF AN UNSOLICITED PROPOSAL

Each application is initially evaluated by Branch or Regional technical staff or by the Research Advisory Committee in light of the following considerations:

- a. The scientific or technical soundness of the proposal.
- b. The competence of the applicant(s) in the relevant discipline as well as the facilities available to the applicant.
- c. The need for the proposed work and the potential benefits that would result from the execution of the proposed work programme.
- d. The amount of alternate funding from other sources received for the project, or related projects.
- e. The past performance or success of an applicant who had received previous support from M.O.E. or elsewhere for the same proposal or a similar proposal.
- f. The availability of M.O.E. Research Funds relative to the amount of money requested.
- g. If the initial review of the Proposal indicates that it may be viable and of value, the Proposal is subjected to detailed review by selected members of the Ministry of the Environment and also may be sent outside the Ministry for Peer Group Review. Peer Review is usually conducted when an Unsolicited Research Proposal requires a Grant totalling in excess of

\$100,000 or over \$50,000 in one year. An acceptable review will consist of reports by at least two experts in the respective field.

9. NOTIFICATION AND ADMINISTRATION OF FUNDS

Successful applicants will be notified in writing by the Branch or Region financially sponsoring the grant or in the case of Lottery Funds by the Research Advisory Committee after their proposal has been finally approved. A cheque for the grant, usually issued on a yearly basis, will be sent to the financial office of the institution from whence the proposal originated. Unsuccessful applicants will be notified at the earliest possible time after their Proposal has been rejected. The proper administration of the funds shall be the responsibility of the Office of Research Administration of the institution concerned, following the Grant protocol of the University. Funds remaining unused at the completion of the Project must be returned to the Ministry unless other arrangements are negotiated with the Research Advisory Committee.

10. GRANT LIAISON OFFICERS

Projects funded by a grant of M.O.E. Research Funds are assigned to one or more Liaison Officers. They may request onsite visits in order to become familiar with new or different materials and methods, and to maintain personal contact with the researcher. A Liaison Officer will be the grant recipient's liaison with the Ministry of the Environment and will act on requests for guidance or assistance. The Liaison Officer shall be responsible for submission to the Branch, Region or Research Advisory Committee of a brief, clear evaluation of the progress made in each research programme that is being monitored.

It is thus important that the Liaison Officer maintain contact with the grant recipient throughout the project.

11. CAPITAL EQUIPMENT

All capital equipment purchased with grant monies from the Ministry remains the property of the Crown and must be returned at the end of the fiscal year or termination of the funded Project unless other arrangements are made with the Liaison Officer. Such equipment may normally be retained by the Grantee as long as it is being used in environmental research related to the original work program. Capital equipment includes such things as: power supplies, meteorological towers, air or source samplers, monitors, pumps, flow gauges, piping and fittings, photographic equipment, anemometers, recorders, transducers, calculators, computers, precipitation samplers, chromatographs, spectrometers or spectrophotometers, trucks, vehicles, tools, mechanical items, etc.

12. FINANCIAL STATEMENTS

A financial statement certified by the Office of Research Administration of the recipient's institution must be submitted to the Liaison Officer at the end of the fiscal year (March 31) for which the grant was awarded. For a multi-year project the grant for the next year will not be paid unless all grant funds for the preceding year are accounted for in a financial statement.

13. RESEARCH GRANT SEMINARS

All grant recipients are expected to make, if invited, a full presentation of the results obtained during the Project at one of the Ministry of the Environment's Seminars, Workshops, or Conferences. Except in unusual circumstances, the presentation should be given by the principal investigator. If for some reason this is impossible, a suitable

replacement should be appointed who is familiar with all aspects of the work. Presentations will normally be approximately 30 minutes in length and shall be open to the scientific community. Participating investigators shall be notified of the seminar time and location well in advance. The location of the seminars will normally be Toronto.

14. REPORTING OF RESULTS

Grant recipients are encouraged to publish in the outside literature the results of their work. Before this is done, however, the permission and approval of the Liaison Officer must be obtained. If such outside publication is undertaken, acknowledgement must be given that the research was funded with Province of Ontario, Ministry of the Environment Funds and a disclaimer must be inserted such as shown in Part 1, Section 13. It is also required that a final report for the information and use of M.O.E. be submitted to the Liaison Officer upon completion of the project, or in the case of a partially completed project, a status report describing the progress to date should be submitted periodically throughout the duration of the Project. This is particularly important if the investigator expects further funding, as additional funds normally will not be provided until the report is received. The usual time interval between progress reports is one year for multi-year projects although progress reports may be requested at shorter time intervals for special reasons.

PART 111

INFORMATION RELATING TO CONTRACTS

1. PURCHASE AND MANAGEMENT OF RESEARCH AND DEVELOPMENT SERVICES

Research and Development is defined as investigative study to increase knowledge of or information on a particular subject. To support this type of activity two kinds of Projects may be funded by contract by the Ministry of the Environment.

a. Solicited Projects are requested and defined by the Ministry.

Where the estimated total cost of the project is less than \$15,000, neither tendering nor Management Board approval is required. Where the estimated total cost equals or exceeds \$15,000, projects must be tendered by requesting letters of qualification from interested researchers, or otherwise publicizing the requirements and inviting proposals from at least three sources.

b. Unsolicited Projects are proposed by external sources and not in response to a specific Ministry request. The proposal must be assessed by the recipient with regard to:

- (i) consistency with the Ministry's interests, objectives and policies in the area of research;
- (ii) compliance with the Guidelines for Provincial Lottery Projects if support is requested from Lottery Funds;
- (iii) the advisability of calling for competitive proposals on the project;
- (iv) funds being available in an existing appropriation.

All Unsolicited Proposals must be approved by the Research Advisory Committee in accordance with the Manual of Administration.

(See part 1, paragraph 16, page 9).

2. PURCHASE AND MANAGEMENT OF CONTRACTED SERVICES FOR SOLICITED PROJECTS

Appendix No. 7 contains the procedures to be followed in the procurement of services by the Ministry of the Environment. The procedures are in accordance with Management Board directives and also include certain Ministry controls. Reference should be made to the Manual of Administration, Volume 1, Section 50, Purchase and Management of Professional Services for confirmation of procedures. All project documentation for reference or audit must be retained for a minimum of three years. Research and Development Services contracted for Lottery Projects will be the subject of an annual review by the Research Advisory Committee.

3. COMPETITIVE PURCHASING

Refer to Appendix No. 7 for the details on this subject.

4. ADVERTISING FOR QUOTATIONS FOR SOLICITED PROJECTS

If competitive bidding is necessary it should be done through the facilities of the Purchasing Section, Financial and Administrative Services Branch. If it is felt absolutely necessary to advertise, then words such as, "bidding", and "tendering", should not be used as these make the advertisements very similar to the standard advertisements used to call tenders for contract work. The words, "invitation for proposals", are preferred. Requests for Proposals (RFP's), should always be directed to one specific group of Contractors who are expert in the solicited field of research and work from the same economic base. If the Request for Proposal is to be sent to both Consultants and Universities, this fact should be made clear to both parties but this occurrence should be avoided if possible.

5. GENERAL CONDITIONS OF CONTRACT

The General Conditions of contract shall be the Conditions of the Province of Ontario for Purchase and Management of Professional Services, Research and Development Services, and reference should be made to the Ontario Manual of Administration Volume 1, Section 50-9.

- a. All items of equipment purchased by the Contractor and, classified as capital equipment shall be used solely for the purposes of the contract and shall be suitably tagged as the property of the relative M.O.E. Project and shall be disposed of in a manner determined by the Policies of the Province of Ontario.
- b. The Province or the Contractor may, by giving thirty (30) days notice in writing, terminate the contract as regards all or any part of the work. In the event of a termination notice, the Contractor shall cease work in accordance with and to the extent specified in such notice, and the Contractor shall be entitled to reimbursement for the actual costs and obligations incurred with respect to the work up to the date specified for termination in such notice.
- c. It is intended that the results of the contract shall be disseminated as effectively as possible. For this reason, final reports are to be prepared according to Appendix No. 12, "Suggestions for Report Preparation".

6. ASSIGNMENT OF CONTRACT

After the Project has been approved, by the Branch, Region or in the case of Lottery Projects by the Research Advisory Committee and the Minister of the Environment, the Liaison Officer should discuss

the Project with Financial and Administrative Services Branch, Purchasing Section to ascertain if a Purchase Order with or without special conditions is sufficient to award the necessary work to the Contractor or if a contract is necessary in addition to a Purchase Order. The Suggested Format for conditions shown in Appendix No. 8 will serve as guidance to the Liaison Officer in preparing the papers to accompany the Purchase Order.

PART 1V
INSTRUCTIONS FOR PROVINCIAL
LOTTERY LIAISON OFFICERS

PART 1V
INSTRUCTIONS FOR PROVINCIAL
LOTTERY LIAISON OFFICERS

PART 1V

INSTRUCTIONS FOR LIAISON OFFICERS OF PROJECTS
SUPPORTED BY THE MINISTRY OF THE ENVIRONMENT

1. INTRODUCTION REGARDING PROPOSALS AND PROJECTS

- a. The following information has been compiled to give guidance to Liaison Officers and other personnel involved in Projects supported by the Ontario Ministry of the Environment.
- b. The Projects which require Liaison Officers have been reviewed by the Branch, Region or the Research Advisory Committee who have recommended them for approval. The overall objective of the Liaison Officer will be to ensure successful completion of the scientific work conducted under a contract or a grant in accordance with Government requirements. (See Section 50, Manual of Administration - Volume 1, and Appendix No. 7 and No. 8). The Liaison Officer will be the only official contact between the Ministry and the Contractor or Grantee.

2. NUMBERING OF LOTTERY PROJECTS

Lottery Projects within M.O.E. are numbered according to the following scheme:-

Projects xz - Oww - ab where xz is the last two numbers of year, e.g. 79; 80; 81; in which the project was approved.

w is 1, 2, 3, etc. in numerical order for the projects.

a is,

- 1 for solicited proposal assigned to a contractor;
 - 2 for an in-house M.O.E. project;
 - 3 for an unsolicited proposal assigned without bidding;
- b is for the duration of the project in years.

Example: Project 77-003-32

This is an unsolicited proposal identified as Project No. 3 for two years starting in 1977.

3. PROPOSAL AND PROJECT FORMULATION FOR SOLICITED PROJECTS

Solicited Proposals may be funded either with Branch, Region or Lottery funds. In the case of proposals requiring Lottery funds, approval of the Research Advisory Committee must be obtained.

The activity before contracting a solicited Proposal should be as follows:-

- a. Proposal originates from a need or a problem perceived by a M.O.E. Branch or Regional staff member or the R.A.C.
 - b. Proposal is discussed within the Branch or Region for opinion of viability and approved for contracting to an external source with Branch or Regional funds.
 - c. R.A.C. evaluates the proposal if it requires Lottery funds, possibly discussing it with the proposer and, after review, gives either a rejection or approval in principle to support it with Lottery Funds up to a prescribed limit.
 - d. A Liaison Officer is selected who formulates the specifics for the proposal and develops a list of potential contractors.
 - e. The Liaison Officer compiles a Request for Proposal (RFP) after discussion with the R.A.C., if necessary, and sends it to the approved contractors who might wish to submit a proposal.
 - f. When the proposals are received from the bidders, the Liaison Officer evaluates them. (See Appendix No. 6 for suggestions).
- For Lottery Proposals, the complete files on the first three proposals in order of choice are sent to the

R.A.C. Secretary for submission, if necessary, to the R.A.C. and retention.

- g. In the case of Lottery Proposals, the R.A.C. decides on the successful contractor to be recommended to undertake the Project and so informs the Liaison Officer who actually may have attended the R.A.C. meeting to assist in the discussion and selection. The Liaison Officer arranges for Forms 02 and 03 to be compiled by the successful bidder of a Lottery Proposal and gives copies to the R.A.C. Secretary to use for obtaining Ministerial approval. (See Appendices No. 3 and No. 5). When approval from the Minister is received, the proposal is given a Lottery Project Number and the Liaison Officer is supplied with a copy of Form 03 signed by the Minister. The Liaison Officer is now in a position to inform the contractor that he has Ministerial approval of the Lottery Project and that steps are being taken to arrange a Purchase Order and if necessary Conditions or a Contract.

4. CONTRACT AWARD AND ADMINISTRATION

- a. The Liaison Officer compiles a draft copy of Conditions of purchase and requisition for the Project and discusses them with Legal Services Branch and Purchasing. (See Appendix Nos. 7 and 8).
- b. Discussion is held with the Contractor and details of the project are reviewed and negotiated.
- c. After final documentation is checked with Legal Services, if necessary, a Purchase Order to accompany it is issued to the Contractor and the Project may now start.

- d. Once awarded, the Liaison Officer will monitor the contract and will be responsible for specific performance by the contractor.
- e. Invoices from the Contractor must have approval of the Liaison Officer before payment.

5. CHANGING THE CONTRACT

Changes to the contract for a Lottery Project are to be jointly agreed to by the Liaison Officer, Research Advisory Committee and the Contractor. If necessary, the appropriate assistance and authorization for contract amendment will be obtained from the Financial and Administrative Services Branch, Legal Services Branch, Executive Committee and Minister.

6. EVALUATION OF A CONTRACTOR'S PERFORMANCE

At the termination or the end of the Project an evaluation of the contractor's performance will be prepared by the Liaison Officer and maintained on file for future reference. (See Appendix No. 10 for a suggested format for the Project (Grant or Contract) Performance Evaluation).

7. REPORTING

Written reports on the status of all projects supported with Lottery Funds should be submitted to the R.A.C. every six months by the Liaison Officers. These reports may be compiled either by the Contractor, Grantee or the Liaison Officer.

8. HANDLING OF CONTRACTORS

Fair treatment to bidders and contractors will be assured by following the following procedure:-

- a. If the time deadline is extended on a Request for Proposal, all the bidders must be informed and any bidders that have submitted their tenders may be allowed to take them back and rework them in view of the revised deadline extension.
- b. If one particular competitive bidder is extensively assisted or counselled by M.O.E. after issuing RFP's then all the bidders should be summoned and given equal access to such information.

9. INDUSTRIAL PROPERTY CLAUSES

Appendix No. 9 contains a letter from M.O.E. Legal Services Branch regarding various Industrial Property Clauses which may be inserted into contracts depending on what the Ministry wants in the particular circumstances. Further advice may be obtained from Legal Services Branch.

10. AUTHORITIES AND RESPONSIBILITIES OF LIAISON OFFICERS

- a. The Liaison Officer is responsible for all matters concerning the scientific and technological content of the work under contract and its management. He represents Financial and Administrative Services Branch and is responsible for contracting in accordance with Ontario Government policies, guidelines and regulations. He is responsible for contract issuance, management and possible amendment.
- b. The Liaison Officer establishes the scope and the research criterion of the work and prepares a statement of requirements assisted by members of the Ministry technical staff as required. At this point, a requisition may be raised to allow the Financial and Administrative Branch to proceed with obtaining proposals.

- c. The Liaison Officer provides advice on potential sources capable of conducting the work, compiles a bidders list and/or invites private sector response to potential projects.
- d. The Liaison Officer provides a work statement, develops Terms of Reference for the Proposal, prepares the request for proposal and evaluates competitive submission of proposals.
It is contrary to the principles of good procurement practice to restrict artificially the competition to selected suppliers.
- e. The Liaison Officer evaluates the scientific, non-scientific and technical portion of the proposal and may comment on other matters. A weighted factor evaluation scheme may be used as shown in Appendix No. 6. In the case of Lottery Proposals, the Liaison Officer will submit to the R.A.C. the selection report on all bidders with recommended selection. Copies of the top three bids should be attached with evaluation. The selection of the successful bidder for a Lottery Project is decided by the R.A.C. assisted by the Liaison Officer based on evaluation of proposals.
- f. The Liaison Officer discusses the proposal with the successful bidder. He reviews and confirms terms and conditions of contract including price and management techniques with Contractor after consulting, if necessary, with Legal Services Branch.
- g. The Liaison Officer initiates the requisition to purchase through the appropriate channels. He prepares necessary documentation in co-operation with Legal Services leading to contract award. The signing procedure for the requisition is to be the normal routine for passing a requisition upward through a M.O.E. Unit, Section, Branch and Division. Before a

copy of Form 03 is sent to the Deputy Minister for Ministerial approval of a Lottery Project it should contain information on the transmittal letter that the respective Branch Director has given his approval to the proposal or project. Contract costs and grants arising from the M.O.E. Provincial Lottery Trust Fund Projects should be charged to:

Environment Assessment & Planning Division
Program Administration
Vote 2002 Item 01
Charges - Payments from Provincial Lottery
Trust Fund for Environmental Research
Sequential Sub Activity No. = 210
Organization Unit No. = 206
Lottery Project No. xz-0ww-ab.

- h. Equipment purchased to conduct the project is to remain the property of the Province after the Project is completed. It is possible that arrangements can be made at the termination of the project to permit continued use of the equipment for continuing or related purposes.
- i. The responsibility of maintaining files for progress, interim and final reports of Lottery Projects has been delegated to the Secretary of the Research Advisory Committee. The Liaison Officer should forward copies of all reports to him so that they can be appropriately distributed or filed. Copies of all reports will normally be sent by the contractor directly to the Liaison Officer who will approve them, if acceptable, for passing on to related Branch or Regional Management or to the Research Advisory Committee. The procedure for handling final reports is set out in the "Publication Policy Procedures for External Contract Reports". (See Section 65, Manual of Administration Volume 1, Part 5).

- j. Upon receipt of an invoice, the Liaison Officer shall ensure that it reflects the progress of the work and that the performance of the contractor is in accordance with the contract. If acceptable, he shall certify the claim, keep one copy for his records and forward the invoice to the Financial and Administrative Services Branch for processing for payment. It is necessary for the Liaison Officer to receive fiscal year end invoices before March 15, for them to be processed and paid before the year end.
- k. The Liaison Officer provides evaluations of the Contractor's performance. This may be done by using a form such as shown in Appendix No. 10. For Lottery Projects, one copy will be forwarded to the R.A.C. Secretary and a second placed in the Financial and Administrative Services Branch source information system for future reference.
- l. The administrative function of the Grant Liaison Officer in a technical sense for a Lottery Project is equal or comparable to a Contract Liaison Officer. At year end, or more often if necessary, the Grant Liaison Officer should verify the expenses of a Project funded by a grant. The detail listed above for Contract Liaison Officers is, to a large extent, not applicable to Grant Liaison Officers, as they are not involved in financial matters of project contracting and invoice approving because the project is funded by a grant arranged chiefly by the Chairman and Secretary of the R.A.C.
- m. The Liaison Officer shall be watchful that costs do not accrue to a contract without the concurrent production of research information. This may happen when adverse weather circumstances or unfavourable experimental conditions cause the failure to obtain results and in this case, the investigation should be stopped by so instructing the contractor or grantee.

GUIDELINES AND PROCEDURES FOR
"THE PROVINCIAL" LOTTERY FUNDING

Project Selection Guidelines:

1. Projects should be practically oriented, cost effective, and related to the solution of serious or urgent problems. They will not be restricted to research but may for example provide for restoration of the environment where public health is in jeopardy, contribute to standard criteria development or demonstrate that the practical application of a technique will resolve a health problem.
2. The Ministry will continue to identify needs and areas of interest, set priorities and call for proposals related to these requirements. Unsolicited proposals will be considered on the same basis.
3. Projects should not be an extension of regular Ministry programs.
4. Projects resulting from solicited proposals will be carried out by contract or grant unless a clearly defined benefit can be demonstrated for in-house work.
5. Maximum duration of any single project, including report preparation, is three years. (36 calendar months).
6. Liaison will be maintained with the Ministries of Labour and Health to avoid duplication, to exchange information and to facilitate the development of joint projects.
7. The Research Advisory Committee will provide peer review and assessment of proposals and make recommendations for selection.
8. Projects selected by the Committee will be reviewed by the Deputy Minister and recommended to the Minister for approval.

PROJECT CONTROL AND REPORTING:

1. Liaison Officers will be appointed for each project to maintain liaison and monitor the project.
2. Contractors or grant recipients will provide annual progress reports or at a shorter interval of time if requested, and a final report.

3. Attainment of Objectives:

Assessment of Performance

1. By report of the Liaison Officer
 2. By interim reports
 3. By final report
 4. By Ministry (Branch, Region or RAC) review of items 1, 2, and 3.
4. Implementation of Results
1. By appropriate publications
 2. The related Ministry Branch, Region or the Research Advisory Committee will select report recommendations for action through an implementation program.

APPENDIX 2

"Only two pages shown of Form 01"

Form 01

APPENDIX NO. 2

MINISTRY OF THE ENVIRONMENT

SUMMARY OF PROPOSAL FOR "THE PROVINCIAL" LOTTERY FUNDING

This form is to be completed by Ministry staff who wish to submit a project proposal for funding by external solicited contract or for funding as an in-house (internal) project.

DATE:

PROJECT TITLE:

RELATED PROJECTS:

MOE PROJECT ADMINISTRATION BY:

TOTAL BUDGET for an External Solicited Proposal

YEAR #1 YEAR #2 YEAR #3 TOTALS:

TOTAL BUDGET for an In-House Internal Proposal

	YEAR #1	YEAR #2	YEAR #3	TOTALS:
SALARY:				
TRAVEL:				
SUPPLIES & EQUIPMENT:				
OVERHEAD:				
OTHER (SPECIFY):				
TOTALS:				

CONTRACT MAN YEARS:

YEAR #1 M.Y., YEAR #2 M.Y., YEAR #3 M.Y., PROF.M.Y., TECH.M.Y.

ARRANGEMENT FOR ANALYTICAL SERVICES

PRINCIPAL INVESTIGATOR:

RAC PROPOSAL NUMBER:

SUBMITTED BY:

NAME:

TELEPHONE NUMBER:

BRANCH:

PROVINCIAL LOTTERY FUND

INSTRUCTIONS FOR FORM 01

The Provincial Lottery Fund Form 01 was developed for the use of Ministry staff who wish to submit a project proposal for funding either as an external solicited contract or as an in-house, internal project. In either case, it is recommended that a detailed proposal be prepared to describe the project and use Form 01 as a summary for the benefit of the review committee.

Kindly note that pages 2 and 3 are identical on Form 01 with pages 3 and 4 on Form 02 for use by Contractor, Consultant or University.

The proposal described on Form 01 will be reviewed by the RAC, possibly returned for alterations or submitted to another Branch, Committee or Ministry for comment and finally either recommended for funding or rejected. If recommended, it is then necessary to issue a "Request for Proposal", (R.F.P.) to selected Bidders or Contractors.

A. For In-House Proposals and Projects

If the hiring of contract casuals is necessary, a justification is prepared and submitted with the documents for approval to the Research Advisory Committee. The Program Planning Branch will advise RAC of decision on the staffing submission. If the submission is supported, the approval documents will be sent to the Deputy Minister for review and recommendation for approval by the Minister. Program Planning will then advise Personnel of approval to hire contract casuals and the RAC will advise originator and forward approved documents.

B. For Contract Proposals and Projects

Form 02 and Form 03 will be prepared by the selected successful bidder and submitted to the Deputy Minister for review and recommendation for approval by the Minister. A copy of the approved proposal Form 03 will be returned to the originator. (See instructions for use of Form 02, Appendix No. 3).

This form is to be completed by a Contractor, Consultant or University who wish to submit a solicited or unsolicited project proposal for funding either by a contract or a grant.

PROPOSAL NO.

PROJECT NO.

PROJECT TITLE:

PROPOSAL IDENTIFICATION:

Check appropriate
Classifications

This proposal is submitted as:

- (a) Solicited (asked for by Ministry of Environment)
(b) Unsolicited (Not requested by MOE)
(c) Funding is requested as a contract
(d) Funding is requested as a grant

CONTRACTOR:

PRINCIPAL INVESTIGATOR AND AFFILIATION:

SPECIALISTS:

BUDGET:

	YEAR #1 April 1, 1980 to March 31, 1981	YEAR #2 April 1, 1981 to March 31, 1982	YEAR #3 April 1, 1982 to March 31, 1983	TOTALS:
SALARY:				
TRAVEL:				
SUPPLIES & EQUIPMENT:				
OVERHEAD:				
SERVICES:				
OTHER (SPECIFY):				
TOTALS:				

CURRENT OR PREVIOUS PROVINCIAL LOTTERY FUNDING:

OTHER SIMILAR PROJECTS:

OTHER RESEARCH SUPPORT:

HAS THIS PROPOSAL OR ONE SIMILAR TO IT BEEN SUBMITTED
ELSEWHERE FOR FUNDING? IF SO, WHERE?

SUBMITTED BY: _____

NAME: _____

TITLE: _____

ADDRESS: _____

TELEPHONE NUMBER: _____

INFORMATION TO APPLICANTS REQUESTING SUPPORT FOR THEIR PROPOSAL
BY MEANS OF A GRANT

It is agreed that the information outlined in the latest edition of the publication, "Information Booklet on Grants and Contracts and Instructions for Contract Liaison Officers and Grant Liaison Officers," issued by the Ontario Ministry of the Environment, apply to any grants made pursuant to this application and the conditions described in the booklet are hereby accepted by the applicant and the applicant's employing institution. These conditions are as follows:

CONDITIONS OF AWARD OF GRANT

In the event that a grant is awarded the applicant agrees (to) (that)

- 1) Provide the Research Advisory Committee, Ministry of the Environment with a written report on the work completed during the fiscal year that the grant was held and with copies of all reports or publications resulting from this project.
- 2) Provide an audited statement of expenditures at the end of each fiscal year to the Liaison Officer.
- 3) Provide to the Liaison Officer at the end of each fiscal year, a list of capital equipment purchased with grant monies.
- 4) Return all capital equipment purchased with grant monies at the completion of the project or alternatively, make some other suitable arrangement with the Research Advisory Committee, if the equipment will continue to be used to carry out related work.
- 5) Immediately notify the Liaison Officer of any change in the scope or nature of the work programme, and return all funds to the Ministry not required to carry out the approved, revised programme.
- 6) Return to the Ministry all grant funds remaining at the completion of each Fiscal Year or at the completion of the Project.
- 7) Make a presentation, if so requested, of the results obtained from the project at one of the Ministry of the Environment's Conferences or Workshops.
- 8) There will be no stipend or salary paid to the Principal Investigator(s) from the grant.
- 9) Grant recipients are encouraged to publish the results of their work.
- 10) No overhead will be paid or accepted in connection with this grant.
- 11) Allow an Ontario Provincial Government Auditor access to the financial records of the project either during or after its completion.
- 12) The recipient of a Grant or Contract agrees to present a paper at a conference or seminar at his own expense if his proposal is supported with Provincial Lottery Funds.

DEAN OF FACULTY: _____

PRESIDENT OR PRINCIPAL: _____

DIRECTOR OF RESEARCH ADMINISTRATION: _____

FINANCIAL ADMINISTRATOR OF GRANT FUNDS: _____

APPLICANT: _____

PROVINCIAL LOTTERY FUND

INSTRUCTIONS FOR FORM 02

(See Instructions for Liaison Officers (Part 1V)
for complete details)

Form 02 is for the use of Contractors, Consultants or Universities and should be completed by them when submitting Unsolicited Proposals for funding by either a grant or contract or when bidding on a solicited research contract.

Form 02 is a summary of the proposal submission for the benefit of the Research Advisory Committee and is not intended as a substitute for the detailed submission from the applicant. The detailed submission should include a full description of the proposed project, a cost breakdown particularly of salaries and overheads, statement of experience, list of publications, and curriculum vitae. Information should be provided on consultants or other experts who would assist.

This Form 02 will accompany the Ministerial Approval Form 03 when the proposal is submitted for Ministerial approval.

For Unsolicited or "sole source" proposals, funded by either contract or grant the approval by the RAC will be identified on Form 04. When requisitioning the Unsolicited Project Contract, attach one copy of the Approval Form 03 which contains Ministerial Approval signature to the requisition and include Form 04 and a copy of the Contract or Conditions of Purchase prepared with the assistance of the Legal Branch. Show Sequential Sub-Activity Number -210- and the Organization Number -206- and the Project Number under the Project Code on the right-hand side of the coding section.

In the case of a grant the conditions given in Part II of this booklet apply and compliance must be acknowledged by multiple signatures as described on page 2 of Form 02 shown as the second page of Appendix No. 3.

MINISTRY OF THE ENVIRONMENT
RESEARCH ADVISORY COMMITTEE
UNSOLICITED RESEARCH PROPOSAL
APPROVAL FORM

The Unsolicited Research Proposal
Title:

Submitted By:

was reviewed and approved by the Research Advisory Committee at its
meeting on the

P. D. Foley, Chairman

APPENDIX 5

MINISTRY OF THE ENVIRONMENT
RESEARCH AND DEVELOPMENT

<u>PROJECT TITLE:</u>	IN-HOUSE	
	EXTERNAL	
	GRANT	
	CONTRACT	
	UNSOLICITED	

(1) OBJECTIVE/S:

(2) DESCRIPTION:

(3) ANTICIPATED RESULTS:

(4) OUTLINE OF BENEFITS:

(5) POTENTIAL FOR IMPLEMENTATION:

CONTRACTUAL DATA:

(1) PROPOSAL NO.

(2) PROJECT NO.

(2) RECIPIENT ORGANIZATION:

(3) PRINCIPAL INVESTIGATORS AND AFFILIATION:

(4) SPECIALISTS:

BUDGETARY IMPLICATIONS:

	YEAR # 1 April 1, 1980 to March 31, 1981	YEAR #2 April 1, 1981 to March 31, 1982	YEAR #3 April 1, 1982 to March 31, 1983	TOTAL
<u>FUNDING:</u>				
Salaries and Wages				
Travel				
Supplies & Equipment				
Overhead				
Services				
Other (specify):				
<u>TOTALS:</u>				

SOURCE OF FUNDING:

HUMAN RESOURCES:

PREVIOUS FUNDING:

SAME PROJECT:

SIMILAR PROJECT/S:

PROJECT APPROVALS:

RESEARCH ADVISORY COMMITTEE

PAUL D. FOLEY, CHAIRMAN

MINISTER OF THE ENVIRONMENT

HONOURABLE - - - - -

Part I

GENERAL INFORMATION FOR EVALUATION AND SELECTION OF CONTRACTORS
RESPONDING TO SOLICITED PROPOSALS

1. RESEARCH STRATEGY PROPOSED BY THE CONTRACTOR

a) Comprehension of Problem and Strategy of Approach to the Proposed Research

Is it sufficiently clear from the proposal that:

- there is an appreciation of the scope, magnitude and importance of research to be undertaken;
- all elements of the work as required by the Request for Proposal (R.F.P.) will be performed;
- each major element of the proposed work is well planned and detailed and will achieve the results expected;
- results of each of the major tasks will satisfy some aspect of the study objectives;
- the overall strategy is comprehensive and fundamentally sound.

b) Flexibility and Potential of Proposal

Does the proposal indicate:

- a well balanced consideration of the various aspects, or is there an over emphasis of peripheral problems;
- a good chance of success which will likely provide useful information for future studies.

c) Potential Criteria and Suggested Weighting Technique

<u>Element</u>	<u>Comment</u>
Comprehension of Requirements	- Superficial, creative; essential to development of successful strategies.
Design of Project	- Degree to which objectives met, importance of objectives
Provision of Suitable Results	- Progress reports, final reports, execution of specific action.
Quality of Proposal	- Unacceptable, excellent; future work is unlikely to be of higher quality.
Potential for Success	- As planned; leads to old, current, new knowledge.
Provision for Contingencies	- What can be salvaged if plan fails? What flexibility in plan?

2. KNOWLEDGE AND EXPERIENCE POSSESSED BY THE CONTRACTOR

a) Training

Are the academic backgrounds of the personnel assigned suitable? Is the specialized training relevant to the study and is it sufficient to allow all aspects of the work to be completed?

b) Experience

Do the proposers have sufficient background and experience in the subject area such that they can adequately deal with all aspects of the Research? Have they conducted similar Research and has the quality of the work been acceptable?

c) Research Team and Company Experience and Organization

Qualifications and Experiences of Individual Research Team	- Members: direct/indirect, on topic/related.
Reporting Relationships of Research Team	- Direct/indirect, consolidated/diverse functional and financial control.
Organization of Team	- Appropriate number of staff/levels, appropriate number in each level, each doing appropriate tasks.
Personal Characteristics of Team Members	- May be significant if dealing with public.
Qualifications and Experiences of Company	- Direct/indirect, on topic/related, depth of past involvement.
Resources of Contractor	- Local office, backup technical support, commitment to other work.
Stability of Contractor	- Financial, personnel turnover.
Reputation of Contractor	- Achievement record, commitment.

3. ORGANIZATIONAL COMPETENCE OF THE CONTRACTOR

Is it clear that there will be adequate material resources and manpower to conduct the Research and that these will be available as required?

4. CANADIAN ECONOMIC BENEFIT OF ASSIGNING THE CONTRACT

Canadian expertise and support facilities will be extensively utilized.
Purchase of Canadian supplies and capital goods and equipment

5. RESPONSE TO R.F.P. AND CONTRACT TERMS BY THE CONTRACTOR

Is there a statement of tasks, a task schedule with man days and identification of individuals?

Are there adequate resumes?

Are firm rates quoted?

Are rates substantiated?

Is there adequate pricing data to allow interpretation of emphasis?

Is there a price breakdown?

Is there a commitment to submit reports as required?

Is there a commitment to completion date?

Cost, Financial and Contractual Terms

Manpower Costs	- Appropriate for level of staff.
Expense Costs	- Appropriate for plans.
Total Cost	- Surcharges, escalation.
Extras	- Negotiation of scope changes (emphasis, quantity, quality, direction).
Progress Payments	- Review Points, holdbacks, cancellation.
Ownership of Material & Documents	- Exhibits, models, information.

Evaluation Method No. 1

EXAMPLE OF METHOD OF EVALUATION OF MATERIAL COVERED IN THE ABOVE PARAGRAPHS

<u>Criteria</u>	<u>Approximate Weighting (See following Part 2)</u>
1. Research Strategy	40
2. Knowledge and Experience	20
3. Organizational Competence	15
4. Canadian Economic Benefit	10
5. Response to R.F.P. and Contract Terms	15

NOTE: WEIGHTING FOR CRITERIA DETERMINED BY REVIEWERS OR SELECTION COMMITTEE AND MAY VARY ACCORDING TO THE PROJECT BEING EVALUATED

INDIVIDUAL CATEGORIES MAY BE EMPHASIZED BY SPLITTING INTO SPECIFIC AREAS OF EXPERTISE, e.g. FINANCIAL

The engagement of a contractor requires the execution of several main activities, such as: determining the need for contracting services, defining the job to be undertaken, selecting a suitable contractor, negotiating the contract, and monitoring the progress of the contracted work. The two most important aspects of the process are "defining the job" and "selecting the contractor".

"Defining the job" is roughly equivalent to preparing adequate, written "terms of reference". "Selecting the contractor" requires an appropriate procedure and evaluation criteria. The exercise of writing the "terms of reference" is necessary to convey what is expected of the potential contractor. It also has the added benefit of focussing attention clearly on the objectives of the contract so that the weighting of the evaluation criteria can be done on the basis of the criteria's importance prior to receiving proposals.

Each main activity may have a number of subactivities. "Selecting a contractor", for example, requires a procedure for presenting the project to contractors as well as evaluating their responses. As these main and subactivities are considered, it becomes apparent that strengths and weaknesses exist in any particular formalized system. Consequently, tradeoffs among and within main activities are likely to occur. It becomes a matter of judgement as to the exact procedure and the specific criteria which suit the exigencies. Therefore, a "right" or "wrong" selection method is not put forward; however, the method described in this Appendix No. 9 or a similar variation is recommended.

Who Selects the Contractor

"Selection by Committee" is recommended whenever possible. This policy recognizes the expertise of steering or ad hoc committees and places the responsibilities for the successful completion with the committee. (The selection committee is normally chaired by the Contract Liaison Officer). This practice has the advantage that usually all interested parties are involved in the selection. If there is no Steering Committee for the Project it will be necessary for the Liaison Officer solely to evaluate the proposals.

Selection Procedures

The particular variation recommended is the one in which the committee reviews the experience and expertise of many firms, perhaps thirty, to invite a few (four to ten) to submit proposals. Detailed written "Requests for Proposal" containing the "terms of reference" are sent to the selected firms. Other firms not selected, but expressing interest, are usually allowed to respond to the "RFP". Adequate time is allowed for discussion meetings, development of detailed written proposals, and evaluation by the selection committee. Sometimes, the firms are asked to make an oral presentation. The results of the competition are reported to the submitting firms by letter after evaluation has been completed.

This procedure has the advantages of providing a reasonable number of proposals from which to select, while not over-burdening the selection committee. It ensures a fair price for the service since the procedure is competitive. It requires a roster of contractors and some knowledge of their abilities.

Evaluation Criteria and Rating System:

The purpose of a weighting and rating system is to compare and to evaluate the contractors proposals equitably. An established evaluation criteria and rating system provides a selection committee with a common basis, and minimizes the possibility of misunderstanding among the participants. The systems, but not the evaluations, should be open to scrutiny of interested parties and the general public.

The first step in developing a systematic procedure is identifying the appropriate list of criteria for the project. This is readily accomplished by reviewing the written "terms of reference". It is unlikely that the elements of the list will be of equal importance; therefore, the relative importance of each must be established. Sometimes, identifying the elements as a "must" or a "want" is sufficient. Normally, it is necessary to weight the elements with a numerical score, based on their importance to the project. A list of potential criteria with suggested weightings is shown in Part 2.

Once the list of criteria has been weighted, one may proceed to the second step, the proposal rating. Ratings for each element on the criteria list are scored for each proposal.¹ The rating indicates the degree to which the element of the individual proposal matches the similar element of the objective or ideal proposal. The rating is not decided by comparing proposals, but by comparing each proposal to the ideal. The rating system is usually numerical, zero indicating no match and ten, an excellent match with the ideal. Following Evaluation Method No. 2 uses a different numerical base.

The final step is the combining of the weightings and ratings. When a numerical method is used, the products of the weightings and ratings are summed. The proposal with the highest total is the one most likely to match the requirements of the task.

Total points cannot dictate the final decision absolutely. Small differences in total scores are not significant because judgement in assigning the weightings and ratings is not precise. In such cases of close scores, careful review should be undertaken. In addition, the comparison of each proposal to the objective or ideal proposal identifies areas where the most suitable proposal is deficient or weak. Modifications in these areas can be made to minimize the risk of poor achievement or failure.

Evaluation Method No. 2

Example of Method of Evaluation of Material covered in above Paragraphs

STRATEGY - Maximum 35 Points

Numerical or Approximate
Evaluation Weighting

1. Comprehension of Problems - possible 12 points
Superficial understanding of problems.
Partial knowledge.
Over-emphasis of peripheral aspects. 0-4 points
2. Sound but not creative understanding of problems.
Some distortion in emphasis on peripheral aspects. 5-8 points
3. Comprehensive knowledge of the problems involved with a sound appreciation of the importance of peripheral aspects. 9-12 points
4. Potential of Proposal - possible 12 points
Proposal has very little potential for success even if completed. 0-4 points
5. Proposal has a moderate chance of success but will probably not contribute much to the 'state of art' on the subject. 5-8 points
6. Proposal has a good chance of success and will likely provide useful knowledge for future studies. 9-12 points
7. Flexibility of Study - possible 11 points
Proposal lacks flexibility. If what is proposed does not occur as planned, the study will be a complete loss. 0-3 points
8. Proposal has some flexibility. It can be salvaged but it would be difficult. 4-7 points
9. Proposal is flexible enough to ensure partial success at a minimum. 8-11 points

KNOWLEDGE AND EXPERTISE - Maximum 35 Points

10. Little or no specialized training in appropriate areas. 0-7 points
11. Staff assigned have some training suitable to certain aspects of study.
Level of training would allow all aspects of study to be carried out. 8-13 points
12. Specialized training is good.
Enough depth in fields of concern to handle any difficulties which may arise. 14-18 points
13. Staff Experience - possible 17 points
Very little experience in subject area. 0-6 points
14. Have worked in subject area but not extensively.
Have enough experience to do work if things go as planned. 7-12 points

Numerical
Evaluation

15. Have extensive experience in subject area.
Past work has been of high quality.
Possess experience necessary to overcome
unforeseen difficulties. 13-17 points

ORGANIZATIONAL & MANAGERIAL COMPETENCE -
Maximum 15 Points

16. Ability to staff and implement multi-faceted
projects - possible 10 points
First attempt at a research project.
A small, inexperienced organization. 0-3 points
17. Some experience in sizeable projects but not
research oriented.
Do specialized studies in specific areas. 4-7 points
18. Have managed multi-faceted projects
successfully in the past. 8-10 points
19. Financial Stability - possible 5 points
Do not have financial resources to ensure
adequate support facilities and stability
over contract period. 0-1 point
20. Can ensure stability over contract period
but support facilities will be just adequate. 2-3 points
21. Have extensive financial resources to ensure
all support facilities readily available
during contract period. 4-5 points

COMMITMENT TO WORK AND TERMS AND CONDITIONS -
Maximum 15 Points

22. Contract Terms and Conditions - possible 5 points
No commitment to terms and conditions outlined
in Request for Proposal. 0-1 point
23. Commitment to property right provisions
but dispute about method of payment or vice
versa. 2-3 points
24. Accepts terms and conditions as specified. 4-5 points
25. Commitment to Work - possible 10 points
Non-commitment to completion of work for
the price quoted. 0-3 points
26. Unwilling to make commitment to complete
some of the work for the price quoted. 4-6 points
27. Definite commitment to completion of work
for the price quoted. 7-10 points

TOTAL:

PURCHASING SUMMARY OF CONSULTING SERVICES

(For details see Ontario Government
Manual of Administration)

1. Research and Development Consultants

Those involved in investigative studies whose objective is to increase the available store of knowledge and/or information.

a. Solicited Projects: requested and defined by the Ministry

- (i) If value less than \$15,000 no tendering or Management Board Approval required.
- (ii) If value is greater than \$15,000 tendering of projects required. Any exception must go to Management Board.
- (iii) If value is greater than \$100,000 both tendering and Management Board Approval are required except in the case of Lottery Projects which have a limit of \$500,000 before Management Board approval is necessary.

b. Unsolicited Projects: proposed externally and not in response to Ministry specification.

- (i) Must be reviewed and approved by the Research Advisory Committee.
- (ii) Award must be within existing funding.
- (iii) If value is greater than \$100,000 Management Board approval required except for Lottery Projects which have an approval limit of \$500,000.

c. Grants: by grants.

- (i) Must have prior Management Board approval if the grant is over \$500,000 for the total Lottery Project.

2. Technical Consulting

Those involved in such work as engineering, architecture, law, etc. and not covered by the previous definitions.

- a. Selection should be based on at least three quotations.
- b. When this is not possible the reasons should be documented and retained on file.

3. General Policy (Cabinet Minute #6 - 22/76)

- a. Organizations which function primarily to criticize Ministry activity should not be funded so as not to influence their objectivity.
- b. Organizations which provide a service as an extension to Ministry services may be funded.



MANUAL OF SUPPLY

DIRECTIVE

Supply Administration
Section 15

COMPETITIVE PURCHASING

The following directive was approved by Management Board on March 26, 1974, and came into effect immediately. (Refer to Manual of Administration, V-M-1, 18 May, 1974).

Purpose

To promote fair supplier competition and optimize value and service for public monies expended.

The Product and/or Service

- requirements shall be defined, whenever possible, in terms of performance, design, or generic specifications in order to encourage supplier competition.

To simplify the procurement process, standard purchase specifications shall be developed whenever feasible for high volume and high value repetitively required items.

The Suppliers

- invited to quote shall be selected in an objective and equitable manner.

Vendor lists shall be maintained by ministries and agencies and shall be used for selecting the suppliers invited to quote.

Interested suppliers shall be given a fair opportunity to bid on government business.

A Minimum of Three Quotes

- shall be solicited unless explained in writing or explicitly covered by ministry policy.

Purchasing policies of ministries and agencies shall describe any exclusions to the three quotation requirement (such as petty cash or small value transactions.)

Formal Procedures

- for supplier quotations and invitations to tender shall be used when requirements exceed prescribed limits or meet other criteria as determined by ministries and agencies.

Ministries and agencies shall describe in their purchasing policies criteria for determining which procedures will be used.

DIRECTIVE

Supply Administration
Section 15

Formal Procedures
(continued)

When necessary to ensure equitable opportunity for suppliers, advertising may be used.

Documentation

- is required for all supplier quotations.

Public Opening
of Tenders

- shall take place whenever practical where the estimated purchase price exceeds prescribed limits or meets other specified criteria as determined by ministries and agencies.

Ministries and agencies shall describe in their purchasing policies the criteria which determine when tenders will be publicly opened.

Generally multiple item and multiple destination tenders may be excluded from public opening to avoid possible misinformation.

Only the bidder's name, address and the amount of the bid need be disclosed at public tender openings.

Selection of the
Successful Supplier

- The evaluation of bids shall be based on objective and defensible criteria established by ministries and agencies.

Ministries and agencies shall describe in their purchasing policies the criteria to be used in evaluating tender submissions.

Bids shall be compared on the basis of full costs, including direct delivered, indirect, carrying, contingent and overhead costs.

Reasons for the non-acceptance of the lowest responsible bid shall be documented.

Ministries and agencies shall describe in their purchasing policies the levels of authority required to approve non-acceptance of the lowest responsible bid.

C O N D I T I O N S

PROJECT TITLE:
.....
.....

PROJECT NO.:

1. The project to be conducted by the Contractor is the procedure set out in the Contractor's proposal submitted on the day of, 19... Changes in the procedure may be initiated by either the Contractor or the Ministry, but both parties must consent in writing before any such changes are implemented.
2. The Liaison Officer for the Ministry of the Environment is the, who shall supervise this Project.
3. The Contractor will provide oral progress reports from time to time at the request of the Liaison Officer.
4. All required written reports shall be submitted to the Liaison Officer for his approval according to the following schedule. Reports shall be submitted in the number of copies indicated.
 - (a) Progress report in ... copies on or before
 - (b) Progress report in ... copies on or before
 - (c) Progress report in ... copies on or before
 - (d) Final report in ... copies on or before including a summary.
5. This Contract covers the year period starting on and concluding on
6. Notwithstanding clause 5, the Ministry may, at its discretion and dependent on the performance of the Contractor and the availability of funds terminate this contract on March 31, 19__ or on March 31, 19__ by giving written notice of such termination to the Contractor before the end of April, 19__ or before the end of April, 19__ respectively. The Ministry agrees to use its best efforts to give notice of termination promptly and to advise the Contractor in the event the giving of notice of termination becomes likely.
7. The total cost of the Project will not exceed in the first year, in the second year, and, in the third year, being a total of

8. The Contractor may submit monthly invoices which do not conflict with clause 7, and the Liaison Officer shall, subject to clause 6, authorize payments to the Contractor of 90% of such invoices, provided that all reports due to that date have been received and approved.
9. At the conclusion of each year of the contract, the Liaison Officer shall authorize a payment to the Contractor at 10% of the invoices submitted in respect of such year, provided that all reports due to that date have been received and approved.
10. The Ministry may inspect the facilities and operations of the Contractor that relate to this Project and may audit the books and records of the Contractor which may relate to the Project.
11. The Contractor will submit a statement of expenditures to the Liaison Officer at the end of each fiscal year.
12. The Contractor will submit a list of capital equipment purchased with project monies to the Liaison Officer at the end of each fiscal year.
13. All capital equipment purchased by the Contractor with Project monies is the property of the Ministry and will be returned to the Ministry at the completion of the Project.
14. In the event that the Contractor changes professional staff members, sub-contractors or consultants designated for this Project in its proposal without obtaining the written consent of the Liaison Officer, the Ministry may, by three months' written notice, terminate this contract.
15. The Ministry may, at any time, by written notice, alter the designation of its Liaison Officer.
16. The rights of the Contractor under this contract shall not be assigned without the written consent of the Liaison Officer.
17. The information, materials, documents, data, working papers and the like which relate to this Project and which the Contractor may acquire, possess or generate are the property of the Ministry and shall be surrendered to the Ministry or disposed of at the direction of the Liaison Officer upon the conclusion of the Project or termination of the contract.
18. All data and information obtained and all reports prepared in the course of the Project are the property of the Ministry, and may be published or otherwise used in whole or in part, by the Ministry, but the Ministry agrees to acknowledge in any such publication, the role played in the project by the Contractor. The Ministry hereby grants permission to the Contractor to publish any report prepared in the course of the Project and submitted to the Liaison Officer, provided that the Contractor, in any such publication, acknowledge the role of the Crown in causing the report to be prepared and has permission from the Crown to release the report as public information.

19. The Contractor shall make a presentation, if so requested, of the results of the Project at one of the Ministry's Conferences or Workshops.

20. The final report is due not later than

21. In the event of adverse weather circumstances or other unfavourable experimental conditions that hinder the achievement of meaningful information, the contractor should stop the investigation and discuss the problem of failure to obtain significant results with the Liaison Officer. This procedure is required to prevent costs accumulating to the Project without the concurrent production of research information.

22. The contract may be terminated if the project cannot be completed for reasons beyond the contractor's control. The 10% holdback until such termination date may then be released to the contractor, at the discretion of the Liaison Officer or Research Advisory Committee. A report will still be required on such work as has been completed.

23. The Contractor agrees that the Crown is not responsible for injuries or damages the Contractor or its employees, agents or subcontractors suffer while performing any work for the purposes of the contract.

24. The Contractor shall be acting as an independent contractor and not as a servant or agent of the Crown. The Minister of the Environment is the agent of Her Majesty for all purposes of this Contract. Nothing contained in or omitted from the Contract shall restrict any of the rights or powers of Her Majesty or the Minister under any statute administered by the Ministry of the Environment.

If the Contractor is guilty of serious misconduct in the opinion of the Crown or neglects, fails or refuses to carry out the assignment to which this Contract applies, or to observe this Contract in other respects, the Crown shall be entitled to dismiss the Contractor summarily without notice and without payment in lieu of notice. This section does not affect the party's rights to payment for work done to the date of termination or to make any claim for damages for breach of contract.

Acceptance of the conditions of the Project:

.....
Contractor

.....
Liaison Officer
Title



Ontario

Ministry of the
Environment

135 St. Clair Avenue West
Suite 100
Toronto Ontario
M4V 1P5

July 7, 1978

MEMORANDUM

TO: All Directors

and

Mr. Paul Foley
Chairman
Research and Advisory Committee

FROM: M.B. Jackson
Solicitor
Legal Services Branch

RE: INDUSTRIAL PROPERTY CLAUSES

In this memo the term "industrial property" encompasses such matters as copyright, patent, industrial design and trademark, which can be protected under various statutes and such matters as confidential proprietary information about a piece of equipment or process which cannot be patented or otherwise protected under statute.

It has recently been drawn to my attention that some contracts under which work is done for the Ministry do not have industrial property clauses in them. Normally the Ministry will want to own all industrial property produced in the course of a contract. The type of interest which the government will acquire under contract would range from the government having an absolute interest over everything that is produced to the contractor having such interest.

Where everything is to belong to one party, the clause could give the other party the right to use it with or without the payment of fees.

.....2

In some cases where the type of industrial property which will be disclosed or developed is not capable of being protected under a statute, the contractor may wish to require the government to not use the information except in certain limited circumstances and to keep it secret.

If some kind of research paper is being done or any other documents are being produced, we will normally, as a minimum, want the right to re-publish them although it would be preferable if the copyright were vested with the government perhaps with permission granted to the person who did the work to also publish it.

Would you please advise anybody in your branches who may be involved in negotiating for research or any other work which might result in documents, papers or any other materials being produced or any other type of industrial property being developed to keep in mind that the contract or purchase order or letter requesting the work to be done should specifically deal with the question of industrial property. Neil Mulvaney, Leo FitzPatrick or myself will be prepared to discuss any particular problems which come up and the wording of particular clauses which might be used. If the only thing likely to be developed is written material with no patentable information in it, then a clause along the following lines should be considered:

1. (1) All copyright in any material produced will belong to the Crown and the Crown may publish and re-publish and permit the re-publication of such material without the consent of or further payment to (name of the contractor as he has designated in the agreement).
- (2) (Name of contractor) is granted permission to publish any material produced by (name of contractor) without the further permission of the Crown provided the notice referred to in the next subsection is published with the material.
- (3) All reports and other written materials except correspondence produced by the contractor shall contain the following copyright notice:

.....3

"© 197_____ Her Majesty the Queen in right of Ontario as represented by the Minister of the Environment.

Permission is given to re-publish this material or any part thereof provided the copyright is acknowledged and a copy is forwarded to (fill in name of appropriate branch and mailing address)."

It may be that you may not want to give a general permission to re-publish in which case the last paragraph would read something along the following lines:

"Permission to re-publish this material or any part thereof may be obtained from (supply appropriate branch name and address)."

The important parts of the above notice are the international copyright symbol, the year, which will be the year of first publication, and the name of the copyright owner. If the international copyright symbol is not used, it will not affect the copyright within Canada but will affect it in other countries including the United States. No registration needs to be made in order to protect the copyright.


It may be that you will not want the material published under the Crown's name until it has been approved. Then subparagraphs 2 and 3 could be replaced by the following:

"(2) The material produced by (name of contractor) shall not be published without the permission of the Crown (which shall not be unreasonably withheld)."

The last words in brackets may or may not be used depending on the nature of the material which might be produced.

We have an assortment of clauses which have been used in various contracts when other types of industrial property have been involved.

MBJ/gg


M.B. Jackson

Performance Evaluation of a Contractor or Grantee

PROPOSAL NO.

PROJECT NO.

PROJECT TITLE.

The Original Proposal was Submitted as:

Check appropriate
Classifications

- (a) Solicited (asked for by Ministry of Environment).....
- (b) Unsolicited (Not requested by MCE).....
- (c) Funding was requested as a contract.....
- (d) Funding was requested as a grant.....

CONTRACTOR OR GRANTEE

PRINCIPAL INVESTIGATOR

SPECIALISTS

<u>BUDGET INFORMATION</u>	<u>YEAR #1</u>	<u>YEAR #2</u>	<u>YEAR #3</u>	<u>TOTALS:</u>
Ministerial Approved				
Actual Expense				
Total				
<u>Objectives to be achieved by the Project</u>				

Results

State the success in meeting the stated objectives or reasons justifying why this was not possible, the completeness and applicability of the findings, the attaining of cost and time targets and other relevant factors.

Progress

More than expected _____ As expected _____ Less than expected _____
 Has final Report been received? _____ What is Quality of Final Report? _____
Reasons for Variance (if any) from objectives.

Information obtained from the Project of value to the Province of Ontario.

Prepared by: _____ Date: _____
 Liaison Officer

Note: Use additional sheet if necessary.

8. PATENT RIGHTS:

Right to any patentable inventions made during the term of the Funded Project at the expense of the Province of Ontario shall be as follows:

1. It is mutually agreed that all inventions conceived, developed, produced, or first actually reduced to practice by the Contractor, his employees, agents, sub-contractors or others working on this contract in the course of carrying out a Project shall be the property of the Province of Ontario.
2. The Contractor shall completely disclose in writing to the Province any such inventions and shall cause to be executed such documents as are required for the purpose of obtaining proprietary protection in Canada or elsewhere in the world. The Contractor shall not be required to bear any expenses in connection therewith.
3. It is further understood and agreed that the Contractor shall be given, within one hundred and twenty (120) days after disclosure of any particular invention, the first right to take a license in respect of that invention and the Contractor shall, within sixty (60) days of being so notified, inform Ontario in writing if it intends to exercise such right.
4. Ontario will, within a reasonable time, notify the Contractor if it does not intend to seek proprietary protection in respect of any particular invention and the Contractor may, at its option, at its expense, and in its own name, seek such proprietary protection as it deems necessary, and Her Majesty will execute or cause to be executed such documents as may be necessary to transfer to the Contractor all rights in the particular invention.

9. SUGGESTIONS FOR REPORT PREPARATION

PAGE SIZE: 21.0 cm x 29.7 cm

TEXT COPY: Selectric typewriter quality. "Artisan" or other suitable type face. Typed on one side of good white quality bond paper. Typed area is to be 16 cm x 24 cm.

Page number 2.0 cm from bottom edge (set centre).

Line spacing - $1\frac{1}{2}$.

ILLUSTRATIONS:

(a) Line Drawings: supply in photo-ready form, preferably a positive image on cronoflex white card or paper, or other suitable medium. If possible, supply drawing finished size, to fit 21.0 cm x 29.7 cm sheet, allowing for margins all round of not less than 1.2 cm. If drawings are prepared for reduction to 21.0 cm x 29.7 cm, make appropriate allowance in weight of lines and in size of lettering. Where foldouts are used, these should where possible be limited to side-folded drawings, 29.7 cm high by multiples of 21.0 cm.

(b) Half-Tones: For black-and-white photographs supply good quality black-and-white glossy photographic prints.

If line drawings or photographs are to occupy less than a page, leave appropriate space in the text for drawings or photographs and accompanying captions.

CAPTIONS: Each illustration should be accompanied by a Figure number and a caption. Set figure numbers and captions preferably italic, immediately below illustration. Width of caption should not exceed width of illustration.

CONTENTS: The Table of Contents should include a list of chapters, broken down to whatever headings are considered appropriate, a list of illustrations, and a list of tables.

REFERENCES: If a reference list of works cited in the text is used, this should preferably follow the author-date system.

COVERS: Covers and title pages will be supplied by Ontario.

USE OF UNITS: Metric units only with possibly a table of conversions or conversion factors included if necessary.

REPORT OUTLINE

ITEM

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Title Page

Acknowledgement and Disclaimer

Review Notice

Abstract

Summary Report

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List of Figures

List of Tables

Conclusions

Recommendations

Introduction

Objectives

Text

Acknowledgements and References

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INSTRUCTIONS AND ADVICE IN REGARD TO PREPARING AND DELIVERING
PAPERS AT ONTARIO MINISTRY OF THE ENVIRONMENT
CONFERENCES, SEMINARS AND WORKSHOPS

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ONTARIO MINISTRY OF THE ENVIRONMENT
PREPARATION OF A PAPER FOR CONFERENCES,
SEMINARS OR WORKSHOPS

1. Introduction

The paper should be clear, complete, with assumptions plainly identified, data presented with their uncertainty, with precise logic, with relevance to practice described, and with actual accomplishments of the work plainly stated and honestly appraised.

2. Style

It is well to remember that the chief purpose of a paper is to convey information to others, many of whom will be far less familiar with the general subject than the author. Care should be exercised, therefore, to use simple terms and expressions and to make statements as concise as possible. If highly technical or unusual terms or phraseology are necessary, they should be adequately explained and defined.

3. Length Limitations

Technical Papers. The text of the paper should not exceed 6000 words (6 printed pages in a journal).

All paper should be concise regardless of length. Long quotations should be avoided by referring to sources. Illustrations and tables, where they help clarify the meaning or are necessary to demonstrate results properly, are desirable, but they must be kept to a practicable minimum. Detailed drawings, lengthy test data and calculations, and photographs that may be interesting, but which are not necessarily important to the understanding of the subject, should be omitted.

4. Standards for Paper Excellence

The paper will be evaluated by the audience during delivery on the following basis:-

- (a) Has long term reference value
- (b) Is technically new, innovative, or a constructive review
- (c) Has professional integrity, i.e., credits prior work, avoids puffery, is objective
- (d) Has clear presentation (writing, organization, and graphics)

These standards, along with the following remarks, should be kept in mind while writing your paper.

5. Elements or Contents of the Paper

The desired order of the contents of the paper is as follows, and authors are requested to prepare their manuscripts according to this pattern:

- A. Title
- B. Author's name, business connection and mailing address
- C. Abstract
- D. Introduction
- E. Text or Body of the Paper
- F. Summary or Conclusions
- G. Acknowledgements
- H. References
- I. Figures
- J. Tables
- K. Illustrations with Captions
- L. Photographs and other illustrations, including graphs, charts, diagrams, sketches, and line drawings
- M. Appendices

A. Title

The title of the paper should be concise and definitive with key words appropriate for retrieval purposes. It should describe the scope and subject of the paper. The title should not exceed 10 words and a subtitle may be added if necessary.

B. Author's(s') Name(s), etc.

It is necessary that all those who have participated significantly in the technical aspects of a M.O.E. paper should be recognized as co-authors, co-workers or cited in the Acknowledgements.

The name of the author (or authors) should appear immediately below the title at the top of the first page. The business connection and mailing address of the author(s) should appear as a footnote in the lower left-hand corner of the first page. In the case of a paper with more than one author, correspondence concerning the manuscript will be sent to the first author listed unless instructions to the contrary are given.

C. Abstract

A short abstract (50 to 100 words) should head the paper. Its purposes are to give a clear indication of the objective, scope, and results of the paper so that the reader may determine whether the full text will be of interest to him, and to provide key words and phrases for indexing, abstracting, and retrieval purposes. It should not attempt to condense the whole subject matter into a few words for quick reading.

The purpose of the abstract is to tell potential readers whether the paper contains material of interest to them. It should say what new data, conclusions, or point-of-view the reader will find, followed by a brief statement of the significance of this new material. A good abstract gives the main ideas put forth in the paper. It should not be a summary of everything in the paper. Your abstract should be limited to 100 words or less. The abstract will be printed in your paper on the first page. It will also eventually be read by others to help them decide today, or months from now, if your paper can help solve one of their problems. This is why a good abstract gives the new ideas you put forth rather than a summary of everything in the paper.

D. Introduction

The first paragraph or so of your paper should give the reason for writing the paper. What is the problem that needed solving and why? What is the scope of the paper? These paragraphs set the stage for your detailed presentation. The abstract has already given your key findings.

E. Text or Body of the Paper

The text should be organized into logical parts or sections that will follow along in an orderly manner. The purpose of the paper, or the author's aim, should be stated at the beginning so that the reader will have a clear conception of the objective as he proceeds. This should be followed by a description of the problem, the means of solution, and other information necessary to qualify properly the results presented and the conclusions drawn. Finally, the results should be presented in orderly form followed by the conclusions of the author.

When writing your paper, satisfactory headings and grouping of information should follow easily from a good outline. Make sure each heading says something of importance to the reader or hearer. The following points should be remembered when writing the paper:-

- (a) The objectivity expected of a technical paper dictates the style of writing
- (b) Editorial comments are out of place
- (c) Equally out of place is personal history
- (d) Sweeping statements, however well based, are better made orally than in writing
- (e) Finally, commercialism is completely out of place.

F. Summary or Conclusions

The summary and conclusions are counterparts of the introductory statements: there was a specific problem, a planned investigation, this is what was found, this is what it means. Every technical paper should have a summary; the nature of the paper may make conclusions either unnecessary or impossible.

The simplest way to summarize or conclude is to itemize 1, 2, 3, etc. Of course, your reader should be able to find supporting evidence in your text or references for each point.

G. Acknowledgements

Acknowledgements should appear at the end of the text, preceding the references.

The use of company or trade names in titles should be avoided. You are writing a technical paper, not a sales pitch. Your company affiliation will be noted immediately following your name on both the cover sheet and the first page of the paper.

H. References

Citing another work is the standard method of authenticating data, crediting another worker in the field, and guiding the reader to supplementary or collateral information.

References to literature should be made as follows:

- (a) If only four or five references, use footnotes
- (b) If more than four or five, use a list of references at the end of the paper. In this case, each reference should be numbered serially, and in the text these numbers should appear in brackets with the following footnote (used with first reference only): "Numbers in brackets designate References at end of paper".
- (c) Extreme care must be exercised in these references. A single error, e.g., volume, year, or page number, causes waste of time in locating the reference and probably waste of money if a reader orders photostatic copies of an article by mail.

I. Figures

The Figures may be included in the text of the paper if size allows and the number are few. In the case of large sized Figures, they should be included at the end of the text immediately after the References.

J. Tables

Tables of not more than a half-dozen lines may be typed as part of the text, but they should be so located that they do not run over onto a second page. Larger tables should be typed on separate sheets and assembled at the end of the manuscript. Each table should have a suitable descriptive heading. Tables should be numbered consecutively and should be referred to in the text as Table 1, 2, 3, etc.; do not say, "the following table" or "table on page 3," etc.

In contrast to tabulation, tables consist of information of data arranged in vertical columns. The "index" column should always be the first or left-hand column. In tables having a great many columns it is often advantageous to repeat the index column on the right-hand side.

The identity of the data in each column, the units of measure, and other necessary qualifying information should be placed at the top of the column. Column headings should be brief, specific, and completely intelligible so there can be no chance for misunderstanding. Because of space limitations, abbreviations are usually necessary, but only standard abbreviations should be used. Where space is inadequate, symbols or characters may be used in column headings and defined in a footnote.

Where large numbers are to be included in a table, they should be put in terms of thousands, millions, etc., with the proper notation in the column heading. In some instances it is possible to use larger units of measure to reduce the number of digits in the number, such as kilowatts, megawatts, etc. Where a high degree of accuracy is not necessary, and particularly where the accuracy of the figures cannot be justified, it is better to round off large numbers.

K. Captions for Illustrations

Captions for all illustrations should be typed in a list on a separate sheet with the proper figure number preceding each caption. The sheets should bear the name of the author for proper identification.

High-contrast black-on-white glossy prints of graphs, charts line drawings, sketches, and diagrams are preferred. Black ink drawings on heavy white paper or tracing cloth are also acceptable. Each sheet should be properly identified with figure number and the author's name.

L. Photographs, Graphs, Drawings, etc.

(a) Photographs

If photographs are included, the prints should be clear and sharp, with glossy finish. Scales should be included on photographs as needed. Photostatic prints and halftones from printed reproductions do not reproduce satisfactorily. Photographs should not be mounted or pasted in the manuscript. The proper figure number and the author's name should be marked lightly on the back of each photographic print in such a manner that the face of the print will not be marred. Photographs should be mailed flat between cardboards - not rolled or folded - and paper clips should not be used, as they may mark the photographs.

(b) Graphs

A graph may be said to be a pictorial representation of the mathematical relationship between two or more variables. For the most part, it is viewed by the reader as a picture, the general shape of the curve or curves telling the story more simply and quickly than it could be told in words. For the average reader, a graph is more easily understood than the mathematical expression it represents. The ideal graph is one that, together with its caption, is practically self-explanatory and self-sufficient.

To accomplish its purpose, the background (grid lines) on which the curves are drawn must be simple and easily understood at a glance. The proportions must be appropriate and the scales calibrated in a logical manner.

Graphs intended for publications should have relatively few grid lines. Do not use printed graph paper, but trace the graphs in black ink. If charts from recording instruments are used, the record curves should be traced in black ink and a minimum number of the printed grid lines should be used. Legends and essential lettering should be included in the ruled area in such a way that they do not interfere with the curves. Explanatory notes should be put in the caption, together with the title of the graph. In general, the scales and units of measure on all graphs should be placed along the bottom and left-hand sides. Scales should be arranged so that the grid lines shown will correspond to 1, 2, 5 units of measurement, or to such units multiplied or divided by 10, 100, etc.

In preparing graphs for publication it is best to design the background grid so that it will present a pleasing, well-proportioned, and easily understood setting in which the curves may be viewed. In the interest of saving space, as well as to facilitate direct comparison, it is often desirable to draw several curves on the same graph. However, care should be exercised not to include so many that the result will be confusing. In all graphs the weight of line used for the curves should be appreciably greater than that used for the grid rulings.

Where series of separate graphs dealing with similar magnitudes of the same variable are presented, the scales and dimensions of the background grid should be kept the same to permit the reader to make direct comparisons without having to make mental adjustments for changes in the "background".

Lettering done with lettering guides is superior to freehand lettering and should be used wherever possible.

(c) Drawings

Drawings made for general use are not suitable for reproduction in published papers. This is especially true of large drawings where excessive reduction (3 to 1 or greater) would be required. The size of lettering is invariably too small and the lines too light for proper reproduction. Also, there is usually too much detail. Material of this type should be redrawn with only the essential details shown and as little lettering as possible. The weight of lines may be graduated to emphasize important parts. In general, the drawing should present more of a picture than a working drawing. The minimum size of lettering in the reproduction should be the same as that for graphs, namely, about 2 mm (1/16 in.). It is preferable to put descriptive information in the caption rather than to letter it on the drawing.

M. Appendices

Any bulk of information that interrupts the flow of thought in your manuscript is best put in an Appendix. Usual examples are large tables or long derivations, but there is no set rule. The reaction of a reviewer can be a good guide to what will interfere with the reader's easy grasp of the paper. In a highly mathematical paper it may often be found advisable to develop equations and formulas in an appendix, rather than in the body of the paper. Appendixes may also be used for detailed descriptions of apparatus and other related material not essential to the general presentation of the subject.

6. Suggestions on Writing your paper

A. General Remarks

Good organization of thought and careful revisions are two ingredients that are common to good papers. Good organization reflects your thinking through the facts and conclusions you wish to pass along to your readers. Careful revision improves the reader's chance of fully understanding what is being presented.

A written outline is the most common tool used for "thought-organization". It is easy to assemble and reassemble your ideas in this form. Also, the outline can serve as a source of headings for the sections in your paper. Generally, a simple outline is all that's necessary. If you find you have multiple sub-subheadings, this may be a sign that your reader will get lost along the way.

Revisions are best generated by your colleagues. After you have written a manuscript that satisfies you, try it out on a knowledgeable associate. However, don't ask your colleague to rewrite for you. Have your critic tell you about sentences that don't read right, unnecessary statements, unsupported conclusions, or faulty logic. Make note of places where more depth of fact would be of interest, or of anything that would make a better paper from a reader's point of view.

B. Outline

The advantages of preparing an adequate outline before undertaking the preparation of the text cannot be overemphasized. In the process of making the outline, the author classifies his ideas and orders his thoughts into logical sequence so that by the time he is ready to transform his information into complete sentences he has a good mental picture of what it is he is endeavouring to accomplish. In outline form, the sequence of the various items and the progression of thought can easily be adjusted and readjusted until the desired order is obtained. Much time and rewriting are thus saved. A proper outline is the foundation and framework upon which a good paper is readily fabricated.

C. Use of SI Units

SI units of measurement should be included in all papers, publications, and revisions for M.O.E. Conferences and Seminars.

When Canadian customary units are given preference, the SI equivalent shall be given in parentheses, or in a supplementary table.

When preference is given to SI units, the Canadian customary units may be omitted or given in parentheses.

Special care should be used in dealing with decimal quantities. The number 1.3 is not the same as 1.30 or 1.3000. Frequently typists add additional ciphers to give uniform width to a column of such figures. Authors should check carefully to avoid misrepresentations.

Where long columns of figures are tabulated, it is well to divide them horizontally into groups of five, ten, etc., to make the reading easier.

D. Tabulations Within the Text

Where several considerations, conditions, requirements, or other qualifying items are involved in a presentation, it is often advantageous to put them in tabular form, one after the other, rather than string them out in the text. This arrangement, in addition to emphasizing the items, creates a graphic impression in the mind of the reader that aids him in forming an overall picture of the situation. It is customary to

identify the individual items tabulated as 1, 2, 3, etc., or (a), (b), (c), etc. Tabulations of this kind help make the text more lively. Care should be exercised, however, not to use this scheme too frequently, as it may make the reading choppy and be wasteful of space.

E. Mathematics

Formulas and equations should be carefully typed or lettered in the manuscript. A list of all symbols used in the paper should appear at the beginning of the text. The distinction between capital and small letters should be clear. All subscript and superscript letters and figures should be clearly shown. In mathematical expressions and analyses, explain what the symbols stand for and the unit in which each is measured. In some papers it may be found advisable to develop equations and formulas in appendixes, rather than in the body of the paper.

F. Accuracy of Information

It is of the greatest importance that formulas, equations, mathematics, and all technical and scientific data be checked with great care, after the paper has been drafted. A slight error in a mathematical sign or symbol, in a table of data, or in a graph may result in serious error on the part of anyone who may later use the information. Once the paper is published the error will be perpetuated.

G. Headings and Numbering

Headings and subheadings should appear throughout the text to divide the subject matter into logical parts and to emphasize the major elements and considerations. They assist the reader in following the trend of thought and in forming a mental picture of the points of chief importance. Parts or sections of the paper may be numbered if desired, but paragraphs should not be numbered.

Formulas and equations should be numbered consecutively throughout the paper, irrespective of any divisions of the text, using arabic numerals.

Tables, other than brief tabulations appearing as part of the text, should be numbered consecutively throughout the paper, including appendixes, if any, using arabic numerals.

All illustrations, including graphs, charts, diagrams, sketches, line drawings, and photographs, should also be numbered consecutively throughout the paper, including appendixes, if any, using arabic numerals. All such illustrations are properly referred to as "figures".

H. Return of Illustrations

All portions of the Paper including illustrations and original graphs and drawings are not returned to the author unless requested at time of submittal.

I. Typing

Manuscripts should be typed single-spaced or $1\frac{1}{2}$ times on one side of standard letter-size sheets (nominal 220 x 280 mm ($8\frac{1}{2}$ x 11 in.)) with approximately 30 mm ($1\frac{1}{2}$ in.) margins on each side. Pages of the manuscript, including appendixes, if any, should be numbered consecutively in the upper right-hand corner.

J. Number of Copies

Five complete copies of the manuscript, with illustrations, should be submitted, and the author should retain another copy. Of the five copies submitted, one should be the original typed copy and the original illustrative material.

K. Responsibility

The Ministry of the Environment is not responsible for any statement of opinion given in any article, paper, or discussion expressed at a Conference, Seminar or Workshop meeting of the Ministry.

11. Instructions to the Typist

The typed manuscript should have the following parts:

1. Title Sheet: Type the exact title of the paper, author(s), and author's company on a separate sheet of $8\frac{1}{2}$ x 11 typing paper.
2. Abstract: Type the abstract on a separate sheet. The heading (Abstract) should be capitalized, flush with the left margin. The paragraph itself should start with normal indentation of five (5) spaces.
3. Text: This must be typed on $8\frac{1}{2}$ x 11 approximately paper. (See detailed instructions which follow).

A. Typewriter: For best printing results an electric typewriter with prestige elite element is recommended. If this typewriter is not available, any typewriter producing clean, legible copy can be used.

B. Margins: It is necessary to leave a $1\frac{1}{4}$ inch margin on all four sides of the typed sheet. Do not type beyond these margins, keeping in mind, that the final paper will be printed, stapled and tape bound and typing that is too near the right or left-hand margins will be covered by the stapling.

C. Corrections: Unacceptable Corrections:

- 1) Do not erase, erasures will reproduce on the printed copy as dark smudge marks.
- 2) Do not use a chalky taperaser. With handling, the chalk tends to rub off and errors show through on the printed paper.
- 3) Do not strikeover - What you type on the sheet is exactly what appears in the printed paper.

Acceptable Corrections:

- 1) Typewriter correcting ribbons.
- 2) Cutting out of correction and cutting in new copy.
- 3) Pasting over the error with a correction.
- 4) Self-adhesive correcting tape which tapes over the error and allows the correction to be typed on the tape.
- 5) "Liquid Paper" correction fluid may be acceptably used.

D. Spacing: All copies must be double or 1½ spaced with the exception of main headings which are explained below. Double space between paragraphs.

E. Paragraph Indentation: Indent each paragraph five (5) spaces.

F. Headings: There are three types of heads:

- a) Main head
- b) Subhead
- c) Sub-subhead

a) Main head - A main head should be typed all capital letters, flush to the left margin with one (1) line of space above and below.

b) Subhead - A subhead within a section should be all caps, run into the paragraph. Use normal paragraph indentation, and do not leave a line of space above and below.

c) Sub-subhead - A sub-subhead should be typed caps and lower case, underscored, indented, and run into the paragraph. Do not leave a line space above and below.

G. References: References should be numbered consecutively through the paper, with the numbers appearing in brackets.

The bibliography must be typed at the end of the paper, following the conclusion and/or acknowledgements. The heading for this section should be REFERENCES.

In the bibliography list, author first; followed by title of book, article, or report; location and name of publishers (of books), name of magazine or issuing organization, or name of Society meeting; date.

To simplify the punctuation, arrange authors with initials or given name first, then last name. Do not underline any part of the reference. Put article, book, and paper titles in quotes.

H. Equations: Center equations (approximately) in the page using accepted rules for splitting if the equation is too long to fit on one line.

Equations should be numbered consecutively, the number being enclosed in parentheses.

When typing mathematical material, take care in placing sub- and super-scripts, aligning fractions, etc.

I. Footnotes: Each footnote will be inserted at the bottom of the page in which its reference appears. Designate each such reference in the text with an asterisk (*). Use double asterisks if two footnotes occur on the same page.

J. Figures (or illustrations) and tables: All figures (line drawings, graphs, or pictures) and table should be mentioned in numerical order in the text.

4. Tabular Material:

Type tables on separate pages following the body of the text.

Type title of table in caps and lower case at the top of the table, not at the bottom. Single space tabulated copy.

5. Illustrations:

Original line drawings or 8 X 10 glossy prints must be supplied for all illustrations. Photocopies of artwork are not acceptable and reproduce poorly.

Line work must be drawn in black ink on a white sheet. Unless it is essential to the drawing, use of fine screen graph paper should be avoided, as it does not reproduce well.

6. Proof Reading:

After completing the typed manuscript, please go back and proof-read very carefully. The manuscript is not proofread once it is received by the Ministry of the Environment. What is typed is exactly what appears in the printed paper. Please go back and check that everywhere there is a figure or a table mentioned in the text, that there is a corresponding figure or table. Check that every figure has a figure caption, and the paper has an abstract and title sheet.

III. Preparing Your Slides for Effective Technical Presentations

1. Introduction

This guide is intended for those authors who must "go it alone" ... those who do not have access to a professional art department. Only a few basic hints on the preparation of 35 mm slides can be offered here. Books providing more detailed treatment of this subject are available at bookstores and libraries. If you do have an artist and photographer available, you will still find this guide useful in the preparation and organization of your slide material.

2. Equipment Provided at the Meeting

The Ministry of the Environment will provide the necessary equipment for the showing of your lecture slide or movies. This includes screen, projector (Kodak Carousel), slide change signal, lighted pointer, and projectionist. An "Overhead Projector" is also available.

Only equipment for projecting 35 mm (2 in x 2 in) slides or 16 mm optical sound or silent films will be normally be supplied. If you require other equipment contact your Session Chairman before the day of the presentation of the paper.

3. Planning

Many excellent technical presentations fail to reach the audience because of poor slides. Slides deserve at least the same careful planning and preparation that went into your manuscript. If your slides cannot be easily read or understood when projected, the audience will be distracted, the information presented will be devalued, and you will have wasted your valuable time and effort.

Visual aids (slides, etc.) should be used to clarify and shorten a talk, not to clutter it with non-essential and often distracting detail. Each slide should attempt to convey only one idea, such as a trend, a relationship, a comparison, etc. The best type of illustration should be selected for each purpose, e.g.,

- line graphs to show trends and relationships;
- bar graphs to compare magnitudes;
- pie graphs to show distributions;
- schematic diagrams to show circuits, flows and processes;
- pictorial and cut-away drawings to show equipment, etc.;
- photographs to show detail not readily prepared in other ways (microstructures, special arrangements if important, etc.);
- maps for geographic detail;
- tables should be shown only as a last resort and then with a minimum number of items.

4. Legibility

The key to effective lecture slides is legibility. When the person in the rear of the room has to cock his head and squint to read your slides your message will miss its mark.

5. Complexity

The surest way to put your audience to sleep is to cram your slides with data. The objective of slides is to clarify, emphasize, organize, and enhance your presentation. Technical details should be left to the printed paper.

Limit each slide to one main idea. Restrict each slide to a maximum of 15 to 20 words or 25 to 30 items of tabular material. Leave out data you do not plan to discuss. Use several slides to cover a detailed topic that cannot be logically included on one slide.

Most kinds of data can be best represented in graph form rather than in tabular form. Keep graphs simple, with no more than two or three curves.

If you must refer to one slide on several occasions during your presentation, use duplicates instead of trying to return to the original. This will make for a much smoother presentation and also keep peace with the projectionist.

6. General Remarks

The preparation of slides must be entirely at the author's expense and responsibility. Slides should be made by the author before the original figures are submitted with the original manuscript. For names of makers of slides in your community, consult the yellow pages of the telephone directory.

Since M.O.E. provides only one size of projector, slides should be standard 35 mm slides. It is advantageous to use as much of the slide area within the mask as possible for the illustration, although the proportions should not be distorted simply to fill up the available space. Where the proportions of the illustration are greatly dissimilar to those of the slide (for example, a tall narrow illustration), a special mask should be used to frame it properly.

Illustrations (except photographs) prepared for publication in printed papers are, in general, not suitable for slides.

Slides should contain a minimum of detail and reading matter. Essential lettering should be large and bold. If a title is included, it should be as brief as possible. Lengthy explanatory notes should be given orally when the slide is shown and not included on the slide itself. Tables of figures are not suitable for slides. Graphs and simple line diagrams make good slides. In the case of graphs, broad lines should be shown. Remember that the audience will not have sufficient time to examine details or to study points of fine distinction. The aim, therefore, should be to present a general picture setting forth only the characteristics of chief importance.

The need for large lettering on slides cannot be overstressed even though, on the original, the size may appear to be disproportionate with respect to the dimensions of the illustration. It should be borne in mind that projection screens are not always as large as they should be for the room in which the slides are to be shown. This means that, at best, it may be none too easy to read the lettering.

Avoid putting too much material on any one slide, and at the same time avoid the use of too many slides. A maximum of five lines of equations should appear on any one slide. It is better to show a few important slides and allow adequate time for each than to rush through a whole series of them.

It has been found that a 150 x 230 mm (6 x 9 in.) "critical" ("art-form") area works out very well. For good legibility, no letter or character should be less than 6 mm ($\frac{1}{4}$ in.) high when working to this 150 x 230 mm (6 x 9 in.) size of art prior to photographing the 35 mm slide.

For further information consult Kodak pamphlets No. S-13, "Planning and Producing Visual Aids," and No. S-22, "Effective Lecture Slides," both available from Kodak, Motion Picture and Education Markets Division, Rochester, N. Y. 14650.

7. Color

There is no doubt that color slides can be much more effective than black and white. Colors should be kept limited and simple. A colored or grey background usually works better than black and white. Colored filters can be used for word slides (light blue, yellow, and green) to prevent glare and to add interest.

8. Organization and Handling

Slides should be marked on the lower left corner, holding the slide so that it reads correctly on hand viewing. The projectionist will rotate the slide 180 degrees for correct placement in the slide tray.

Number the slides sequentially and mark your script with these numbers where a slide change is desired.

Give your slides to the projectionist BEFORE the session begins, allowing ample time to discuss any special instructions you have for him. If you have a great many slides, you may find it convenient to carry them already loaded in order in a Kodak Carousel slide tray. The projectionist will have empty trays if needed. Remember that there will be other authors in your session who will need to co-ordinate with the projectionist, so be early.

REMEMBER: Don't forget to pick up your slides from the projectionist at the close of the session period.

And finally ... carry your slides with you to the meeting. Don't trust your luck to Murphy's Law and have them shipped ... or carried by an associate ... or checked with your luggage!

IV. Instructions to the Illustrator of a Paper

1. Introduction

The success of the author's paper and his oral presentation will be significantly influenced by the way you handle his illustrations. We're asking you to help your author by recommending changes in his approach to illustrations when you know either the printing or projection will be poor. Since the deadline for final illustrations comes long before the slide deadline it is suggested you first do illustrations for the printed paper. ONE SET OF ORIGINALS OR VERY CLEAR REPRODUCIBLE COPIES (GLOSSY PRINTS ARE BEST) OF THE ILLUSTRATIONS MUST BE SUPPLIED. All illustrations must be black and white. On the back of each should be the author's name, figure number, and an indication of top of figure.

2. Photographs

Black and white, unscreened, 8 x 10 glossy prints must be supplied. The figure number or title should not be part of the print. High contrast is preferred. Crop out any unwanted material that the camera might have caught.

3. Graphs

Plan your graphs so the width of the largest one will reduce to 6" x 9" size and still be readable. In exceptional cases, larger graphs can be used, but the maximum final size must be 6" x 9" prior to photographing the 35 mm slides.

On graphs, use a coarse grid. Never use closely lined colored graph paper as reproduction is poor.

Keep all line weight near uniform to prevent the "dropping" of thin lines. If there are several curves, identify them by labeling or by different types of broken lines. Lines drawn in black ink are best; pencil lines fade and break up when printed. Typewritten lettering is particularly bad as it becomes illegible when reduced to 35 mm slide size. If toning is essential, say, to show a band on a graph, then it can be done by ruling a series of lines in the designated area.

4. Drawings

Drawings have practically the same requirements as graphs. In fact, it will make a better looking job if you plan the line weights and lettering to match any graphs.

If drawings become too complicated there is little you can do. If you get a bad one, it's worth asking the author of the paper if it can be simplified, or shown in a couple of drawings.

5. Lettering

Should be large (not heavy) and clear and in ink. Heavy lettering when reduced fills in. The printed paper is put on microfiche for permanent information storage. The material is reduced 18:1 on the microfiche ... so what fills in or drops out of the illustrations in the printed paper is completely lost.

V. Delivering Oral Presentation of the Paper

1. Introduction

Using the reservation form contained in the advance program for the meeting, make your necessary reservations for both registration at the meeting and hotel accommodations. Do not delay as hotel rooms are usually sold out well in advance.

Among the criteria used by the audience in evaluating oral presentations are:

1. Preparedness (delivery quality, absence of lengthy pauses, presentation length, effective use of aids).
2. Poise (personal control).
3. Delivery (conviction, forcefulness).
4. Clarity (easily understood).
5. Impact (ability of speaker to hold the audience).
6. Aids (clarity and quality of slides, models, etc.);
7. Response to post-talk discussion.

The Session Chairman will tell you how much time is allotted for your oral presentation and how discussion and questions from the floor will be handled.

If the Chairman schedules an advance get-together, such as, a Speakers' breakfast, be sure to attend so that you can get acquainted, review the material each participant is to cover, and confirm the time schedule.

2. Preparation

Time isn't available for a paper to be read in full - an even if it were, word for word presentation would be monotonous. Prepare notes outlining your principal points to jog your memory - not a series of complete sentences. Open by stating your purpose and the problem. Give only the brief supporting data most needed to lead to a forceful presentation of your conclusions. Try out your presentation on a friend or tape recorder. Be sure you have allowed time to present your all-important conclusions and that your voice do not decrease before the end of your talk. Humour is fine, but avoid funny stories unless they are appropriate and you are accomplished in the art.

The standard session room facilities will include a raised platform, lighted lectern, standing and collar microphones, and blackboard with chalk and eraser. Projection equipment for 2" x 2" (35 mm) slides and an Overhead Projector will be provided along with a screen, electric pointer, and professional operator.

A small display which graphically illustrates your presentation can be effective. The only limitation is that your display be of a size and weight that you can hand-carry. It should be set on a table at the front of the room just before the start of the session and removed immediately after the session.

Literature or handout material must be of a technical nature - not sales oriented. A sample must be sent to your Session Chairman in sufficient time to allow review and approval prior to its distribution at the session.

3. Arriving at the Session

Go to the session room 30 minutes in advance to meet the Chairman and other speakers. Test the microphone to determine your best distance from it for clear and uniform volume pickup. Give your slides or films to the projectionist promptly so that he can test them and explain the signal system. When addressing your audience, speak slowly and distinctly in a normal conventional voice. Keep your head up and look at the audience, using your notes for only the briefest possible reference.

4. Time Limit

Authors are usually allowed 20 to 30 minutes for the presentation of their papers, including discussion of slides and other illustrations. If an author believes that this amount of time is insufficient, he should advise the Meeting Chairman in advance of the meeting. The author will then be informed as to whether the number of papers to be presented at the particular meeting will permit allowing him additional time.

5. Lecture Notes or Aids

A set of notes containing the principal points to be brought out is necessary. Such notes should be carefully organized to give proper continuity to the presentation. Preferably, the notes should consist of a list of the different items to be discussed rather than a series of complete sentences. They should present a graphic picture to the speaker around which he can build his story. Where the speaker must move about the platform to refer to charts or other illustrations, it is convenient to have the notes on small cards that may be held in the palm of the hand.

When preparing your notes divide your paper into its main ideas:

- 1) State each one in a short sentence on its own index card.
- 2) Arrange them in the most logical order for your listeners to grasp.
- 3) Add to each a series of key words or phrases to remind you of what you need to tell your audience about each idea.
- 4) Tie in your notes with your slides by a relative system of numbering.

6. Starting the Preparation

The most important parts of a presentation from the standpoint of audience interest are the introductory and concluding remarks. Know definitely beforehand what you are going to say at the beginning and at the end. Avoid spending too much time in the introduction. State your purpose directly and briefly. Be sure that you allow sufficient time for the proper presentation of your conclusions. This is usually the part in which the audience is most interested. Do not let your story weaken at the end. Keep up the interest and your voice until you come to the finish - then stop!

When addressing an audience, pause for several seconds before you start to speak and look directly at your listeners. If you are inclined to be nervous, you will find that this will give you confidence. Stand erect, keep the head up, speak clearly and distinctly. Address your remarks to your audience, not to your notes, or the blackboard, or the projection screen.

7. Public-Address Systems

When a public-address system with a fixed "mike" is used, keep a constant distance from the "mike". Avoid turning your head or walking away. If you want to point to something on the screen or blackboard, do so, but return to the mike before you start to speak again. If the mike is portable, move it with you when you leave the rostrum. A lapel mike allows the speaker considerable latitude in his position, but he should at all times avoid turning his back on the audience.

8. Use of Slides

Rather than show slides that are not well-made or that cannot be read from the back of the room, it is better to eliminate them altogether. Never be put in the position of having to apologize for poor slides. Take the time to see that they are properly made; try them out ahead of time and be sure they are free of error and in the proper order. Be sure that they

are handed to the operator in the right sequence, each with the correct side up, and that he knows at which end to begin. Your name should be on the box. The showing of poor slides is discourteous to the audience and not only detracts seriously from the meeting but also reflects directly upon the speaker.

It is worth noting that contact prints can be made conveniently from the negatives from which the slides are made. Such prints can be included in the speaker's notes so that when the slides are projected he can refer directly to his copies rather than turn his head to see the screen. By labeling points of special interest with letters or other characters, the use of a pointer can largely be eliminated.

Where several slides are to be used in a presentation it is best to show them as a group to avoid the need for frequent darkening of the room. It is desirable to describe each slide briefly and to point out the significant details. Give the audience a few seconds to study the projection either before or after you describe it. If you talk continuously while the projection is on the screen, the listener will be distracted and will neither hear all you say nor gain what he should from the projection. Do not "read" the slide to the audience. If it is properly made your listeners can see for themselves.

9. Addressing the Audience

Papers should not be read. Such presentations are usually monotonous and tiresome and require too much time. What the audience wants is to have the speaker "tell" his story briefly in a conversational style. Experience with many successful presentations shows that they should cover (1) a clear statement of the problem dealt with, (2) a brief description of the attack, and (3) a forceful review of conclusions. Speakers should face the audience as consistently as possible and should avoid monotonous delivery by suitable changes in pitch and tone to achieve emphasis. They should avoid, at all costs, speaking to a slide while pointing out its salient features. This is especially critical when a fixed microphone is used in a large hall.

EXPERIENCED AND SKILLFUL SPEAKERS MAY BE ABLE TO GIVE A GOOD TALK FROM A PAPER PREPARED FOR PUBLICATION, BUT, FOR THE MOST PART, AUTHORS SHOULD ACCEPT THEIR LIMITATIONS AND PREPARE SEPARATE PAPERS OR NOTES AND IN SOME CASES SPECIAL ILLUSTRATIONS FOR THE ORAL PRESENTATION.

Oral presentation should highlight the more significant features of a paper whether they relate to equipment and technique or to results and their interpretation. Unnecessary detail should be left for future reference by a reader. The speaker should aim at promoting discussion.

10. Checklist for Session Chairmen of Organizers

1. Ask your lecturers to conform to the standards recommended here, so far as slides, overhead projectors and other visual aids are concerned.
2. Advise lecturers on the size of the hall, size of screen and distance from projector to the screen, distance from back row to screen and blackboard, and send them the checklist for lecturers.
3. Advise lecturers of the size of letters needed on the blackboard or any display material, e.g., letters should be 50 mm

(2 in.) high and at least 25 mm (1 in.) wide for a hall 30 feet to the back row, and proportionately for other sizes.

4. Check that your projector accepts standard 50 mm (2 in.) square slides, 1 mm to 3.2 mm thick.
 5. Check that the width of your screen is at least 1/6th of the distance from the screen to the back row of seats. (6W standard). If the screen is bigger than this it will not matter. The screen should be at least as high as it is wide.
 6. Check that when the projector is suitably situated the full image of the slide (aperture 24 mm x 36 mm) just fills the smallest dimension of the screen (at 6W standard).
 7. Remember that the normal overhead projector is designed for a relatively small audience, so if an overhead projector is to be used with a large audience obtain a special lens. If this is not possible, arrange for the overhead projector to be placed into the audience so that, with a normal lens, the image just fills the main screen.
 8. Advise lecturers of the facilities which will be available. Give them as much information as possible.
 9. If possible, arrange for the lecturer to meet the projectionist before the lecture begins.
 10. Alternatively, if an automatically-operated slide projector is used, make sure the lecturer is familiar with the operation of this machine before the lecture.
 11. Check that the black-out system works.
 12. Check that the ventilation works with the hall blacked-out.
 13. Check that a suitable pointer is available and that it works.
 14. Check that spare bulbs for the projector(s) are available and accessible.
 15. Check that during the lecture there will be not extraneous noise in the theatre from discos, pneumatic drills, steam hammers, etc.
 16. Check the room booking the day before the lecture.
11. Checklist for Lecturers
1. When selecting your slides limit each slide to the single point which you wish to make.
 2. Use a series of slides to disclose information progressively.
 3. Check that your slides are in standard 50 mm square (2 in. x 2 in.) mounts and between 1 mm and 3.2 mm thick. If you are making new slides, photograph the material on to 35 mm film and mount between 50 x 50 mm (2 in. x 2 in.) glass plates so that the slide is not more than 3.2 mm thick.

4. Check that a white spot is placed so that, when the slide is correctly in the projector, the white spot is facing the operator and on his upper right-hand side, i.e., so that the operator (behind the projector) can see it. (The correct position for the spot is the lower left-hand corner when viewed in the hand).
5. Check the order of your slides. Have them numbered if this is possible and ensure that there is only one set of numbers on the slides.
6. Remember that, generally speaking, photographs from books are not suitable for direct use as slides - the legends need to be in larger letters and the lines need to be thickened. If it is necessary to reproduce graphs or diagrams from books or journals, obtain a print, size 60 mm x 90 mm, cover the old lettering, type in new lettering, thicken the lines in the diagrams and re-photograph on 35 mm film.
7. In order to present typescript material properly, type on to a 60 mm x 90 mm template and then photograph so as to fill a frame on 35 mm film; mount your slide between 50 mm x 50 mm (2 in. x 2 in.) glass plates as above and spot the slide to give immediate recognition of its proper orientation in the projector. (4 above).
8. If a full slide (50 words) is used, up to three minutes is required for reading and comprehension. It is better to use several slides if you can, but if it is necessary to refer to the slide a number of times it is better to repeat the slide in the series.
9. If a table needs to be repeatedly displayed it might be better to write it on a blackboard beforehand.
10. It is even more effective to build up a table on the blackboard.
11. Ask the organiser for the depth of the hall. Letters on blackboards or other visual aids need to subtend an angle of about 0.3° at the eye - for a hall which is 30 feet (about 10 m) to the back row from the screen or blackboard, letters need to be at least 50 mm (2 in.) high. If you write smaller than this those at the back of the audience will have to use their imagination rather than their eyes.
12. Graphs should contain not more than three curves.
13. Tables should contain not more than 30 entries, e.g. 6 lines x 5 columns.
14. Lastly, check just before you leave your base that you have the right set of slides and that they are in the right order.

VI. Submission and Publication of the Paper
given at a Ministry of the Environment
Conference, Seminar or Workshop

1. Review and Acceptance

All manuscripts solicited or submitted are subject to review by the Branch and Committee sponsoring the paper. Receipt of any manuscript does not constitute a commitment for its acceptance for presentation or publication. All manuscripts accepted are subject to editing. Papers submitted to M.O.E. become the property of the Ministry unless they are not accepted, in which case they will be returned to the authors.

2. Discussion and Closure

The Ministry does not provide for a stenographic report of discussion after the paper has been given. The Session Chairman records the name, address and company affiliation of each discussor and may also request each discussor who makes a worthwhile contribution to submit the discussion in writing. All discussions are due one month after the closing of the meeting at which they are presented. Any discussion received by authors should also be forwarded to the Session Chairman within this period. All discussions will be reviewed by M.O.E. approved by discussors, and then sent to the authors for the preparation of a closure, for which approximately a month's time will be allowed.

3. Publications by Others

The Ministry welcomes publication by others of its technical papers once they are presented at a meeting of the Ministry and approved for publication. Special permission for such use, either in whole or in part, is not required, provided full credit is given to the Ministry and the authors.

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